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Eat Well, Keep Moving: Decreasing Childhood Obesity in Fulton County, Kentucky

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The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Director of Graduate Studies (DGS), on behalf of the program; we verify that this is the final, approved version of the student's capstone including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Sandra Onekhen, Student

Mark Swanson, PhD, Committee Chair

Corrine Williams, ScD, MS, Director of Graduate Studies

**EAT WELL, KEEP MOVING: DECREASING CHILDHOOD OBESITY IN FULTON
COUNTY, KENTUCKY**

CAPSTONE PROJECT PAPER

**A paper submitted in partial fulfillment of the
requirements for the degree of
Master of Public Health
in the
University of Kentucky College of Public Health
By
Sandra Onekhena
Lagos, Nigeria**

**Lexington, Kentucky
04/20/16**

Chair: Dr. Mark Swanson

Committee member: Dr. Corrine Williams

Committee member: Dr. Robin Vanderpool

Abstract

With the high rates of childhood obesity in Fulton County, the Purchase District Health Department proposes the implementation of the Eat Well and Keep Moving Program in all the county's elementary schools among fourth and fifth graders. It is an interdisciplinary, evidence-based program that will be aimed at our short-term goal of increasing knowledge about nutrition and physical activity and inspiring positive behavioral change. It works by integrating lessons and activities about proper nutrition and activity into various aspects of the children's lives — in the classroom, cafeteria, at home and in the community. We hope to see children move in the direction of increasing their consumption of fruits and vegetables, increasing participation in physical activity, decreasing unhealthy fat intake, and decreasing screen-time. By integrating the program into the school system, we hope to reach a wide array of students. In the long-term, the goal of the intervention is to see a decline in the prevalence of obesity in the county and to see a sustained, integrated curriculum that will create a culture of physical activity and nutritionally healthy lifestyles. Under the supervision of the program director, Ms. Lisa Carrington, the project assistant, Stephanie Tiwa, and the Community Advisory Board (CAB), the school teachers, food service staff and program staff will work together in ensuring the successful implementation and evaluation of the program. Our thorough evaluation results will be made available to the funders and the public and we hope that this will result in the sustained and widespread dissemination of the program.

Target Population and Need

Obesity is a rising epidemic in the United States among children.¹ It puts teenagers at risk for negative health outcomes such as Type 2 diabetes, hypertension, dyslipidemia, sleep apnea, increased asthma symptoms and a shortened life span.² Child and adolescent obesity can diminish mental health as individuals that fall into these groups often experience low self-esteem, depression, anxiety and obsessive compulsive disorder.² According to the Center for Disease Control, preschoolers who are overweight or obese are five times more likely to become overweight or obese adults, which increases their susceptibility to more negative health outcomes.³ In Kentucky (KY), there has been a rise in obesity rates among children aged 6-11 years from 6.5% in 1976 to 17.7% from 2011- 2012.⁴

According to the Center for Child and Adolescent Health, in 2012, KY ranked eighth highest in the United States for childhood obesity.⁵ One area in great need of attention is Fulton County, KY, currently ranking 101 of 120 counties in the state in overall health outcomes and 103 of 120 in overall child well being (Figure 1).^{6,7} This ranking was achieved by considering factors such as economic security, education, health, Family and community.⁷ The county experienced significant increases in obesity prevalence by 10.9% in females and 7.5% in males between 2001-2011—currently, 46.3% of females and 41.3% males are obese.⁸ With such high rates of obesity among adults, the children in this county have an increased risk for obesity. Research shows that children with obese parents are at twice the risk of becoming obese.^{5,9,10} By 2010, 18.6% of children ages 2-5 were obese compared to the

state average of 15.6%.¹¹

The high rates of obesity could be attributed to several factors, some of which include behavioral factors, socio-economic factors and racial disparities. Firstly, a recent survey showed that in an average week, 75.8% of adolescents in Kentucky ate fruits or drank pure fruit juice less than 2 times a day, 89.1% ate vegetables less than 3 times a day, and 35.7% drank a sugar sweetened beverage at least once a day.¹² According to the 2013 Youth Risk Behavior Survey, of middle school-aged children, 68.4 percent did not participate in at least 60 minutes of physical activities on all 7 days of the week^{12,13} Also, on an average school day, 34.4 percent watched 3 or more hours of television while 41.4 percent played video games or used a computer 3 or more hours per day.¹³ These statistics show that children in Kentucky do not meet the guidelines set by the USDA and thus highlight the desperate need for a behavioral intervention.

Secondly, socio-economic status is one of the major determinants of health; there is a strong correlation between low socio-economic status and obesity.^{14, 15} In KY specifically, 15% of low-income children aged 2-5 are obese compared to the national average of 14.4%, while 18% of low-income high school aged children are obese compared to the national average of 13.7%.^{1,16,17} Due to low socio-economic status, 94% and 100% of the students at Fulton County Elementary School and Carr Elementary School respectively, are eligible for free and reduced lunch compared to 64% in the state.¹⁸ According to the USDA, only students who are from families whose incomes are below 130% of the poverty guidelines are eligible.¹⁹ Lastly, the racial composition of the population may make a large

contribution to the high rates of obesity in county. Research shows that racial minorities experience a higher burden of obesity than their white counterparts.²⁰ Fulton is the only rural county in Kentucky with a substantial African-American population, with 24.3% of the population being African-American compared to 8.2% African Americans in the state as a whole.^{2,21,22,23} In Kentucky, 42% of blacks are obese compared to 30.6% of whites and 22% of Hispanics.²⁴

Figure 1: Overall Child Well-Being Ranking in Kentucky

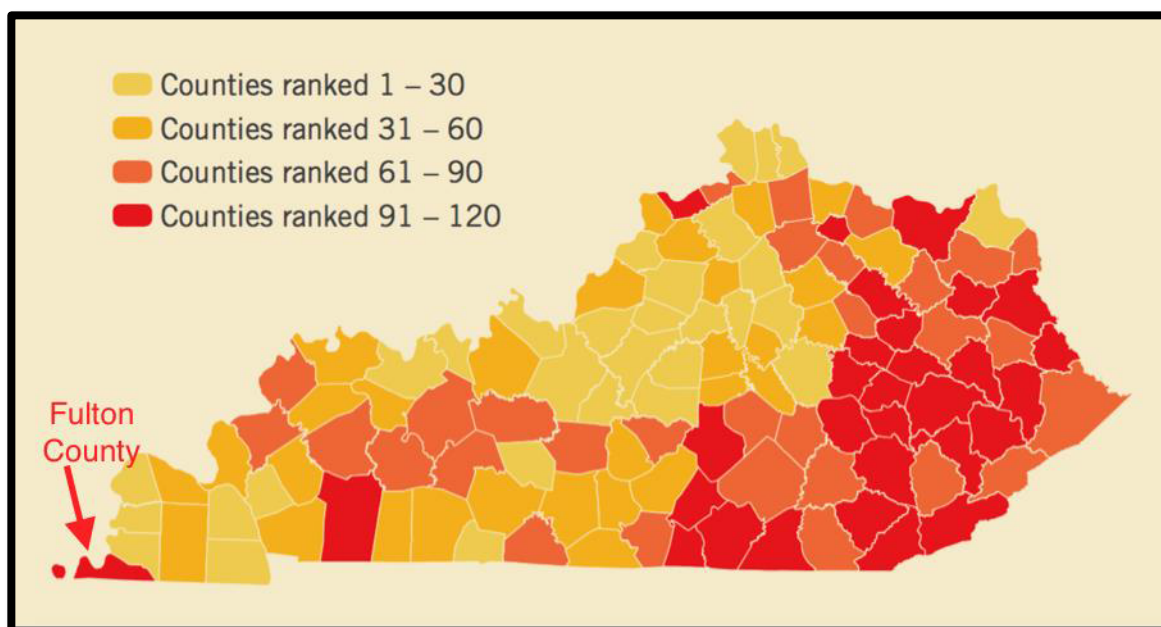


Image Source: 2014 Kids Count County Data Book⁷

This Grant will be used to fund the implementation of a school-based, evidence-based program that will be focused on decreasing the prevalence of obesity in Fulton County, KY. This program, “Eat Well, Keep Moving”, aims to achieve this through increasing fruit and vegetable intake and physical activity and decreasing high-fat food consumption and TV screen time.^{25,26} This “Eat Well, Keep Moving” program

has the capacity to help children develop healthy lifestyles, through its integration into the schools curriculum. The Purchase District Health Department (PDHD) decided to approach the problem in a setting where children spend a lot of their time— at school. The children often eat breakfast and lunch at school, which provides an opportunity to positively affect their nutritional habits. The “Eat Well, Keep Moving” program is a choice because children form a lot of habits in the school environment, from their peers, their teachers and the administrative staff, therefore, creating a culture of healthy habits in the school increases the chance of the children retaining those habits over-time. Implementing this program in a school setting allows PDHD to implement it to scale in Fulton County. Also, using teachers increases the likelihood of the programs sustainability by eliminating the cost of hiring outside staff.

As the original program was designed, the PDHD will implement the program among the fourth and fifth graders. It will be assessed quarterly to account for its effect in the community and to identify the need to make changes to the implementation methods. This program is designed to have the greatest impact as it uses a multilevel approach that targets the problem from different levels of society, which will create many avenues for positive change to occur. This program was successfully implemented in Baltimore, Maryland and if successfully implemented Fulton County, the health department will push for the continuation of this program by the schools.

Fulton County has only two elementary schools, Fulton County Elementary and Carr Elementary Schools. Key enrollment data are in Table 1 below.^{27,28} The

program is projected to reach about 193 children each year based on previous enrollment history. Since all enrolled students will partake in the program as a part of the school curriculum there will be no need for recruitment; however, parental consent will be needed for data collection and program evaluation purposes.

Table 1: Fulton County Elementary School Enrollment			
	4 th Grade	5 th grade	Total
Carr Elementary School	54	53	107
Fulton County Elementary and Middle School	46	40	86
Total	100	93	193

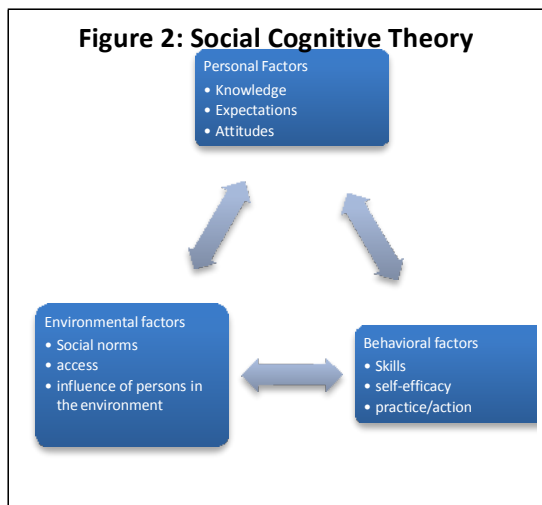
In Kentucky, there are several large organizations that play an active part in the mission to decrease the prevalence of obesity across the state. The ‘Partnership for a Fit KY’ is funded by a CDC grant that aims to reduce and prevent obesity and chronic diseases in Kentucky by increasing fruits and vegetable consumption, physical activity, breastfeeding, parental involvement, and decreasing TV screen time. Although no programs specific to Fulton County were found, there are several programs around the state. ‘Healthy Start’ is a program that is offered at childcare centers that teaches children about healthy habits using educational materials and encouraging physical activity and healthy food consumption. In Jefferson and Owsley County, there is a farm to school initiative that serves locally grown foods in schools, called Grow It Here, Eat it Here.²⁹ These resources can be used to support future efforts related to childhood obesity in Fulton County.

The PDHD will also partner with the Fulton County School’s food services

team, who follow the USDA MyPlate dietary food guidelines and already design and serve the school's food menu. The county school superintendent and board of education are key stakeholders and will be involved in the planning, and approval of ideas. Teachers, staff, parents and other community leaders will also be involved in the implementation process.

Program Approach

The “Eat Well, Keep Moving” program is a school-based program designed to provide a supportive environment for fourth and fifth graders to acquire the knowledge and skills needed to lead healthy lives through proper nutrition and physical activity. These skills can be significant in preventing obesity and other negative health outcomes.²⁵ The program materials are based on social cognitive theory, which suggests that learning occurs in a social context and human behavior is determined by the reciprocal interactions of personal, behavioral, and environmental factors.³⁰ Therefore, “Eat Well, Keep Moving” seeks to alter the child environment through several different but related elements—the classroom, food services, school-wide campaigns, physical education, staff wellness, parents and the community.²⁶ At school, students are taught about nutrition and physical activity and given access to healthy foods, thus allowing them to practice what they have learned in the cafeteria by selecting healthy foods and in the gymnasium by being active.



Focused on the eight core principles of healthy living, the program lessons emphasize that children (1) Make the switch from sugary drinks to water; (2) Choose colorful fruits and vegetables; (3) Choose whole-grain foods and limit foods with added sugar; (4) Choose foods with healthy fats, limit foods that are high in saturated

fat and avoid trans fats; (5) Eat a nutritious breakfast every morning; (6) Be physically active every day for at least one hour; (7) Limit TV and recreational screen time to two hours or less a day; and (8) Get enough sleep to give the brain and body rest.²⁶ The intervention works by integrating the program's principles and materials into existing school structures and curricula. It is widely applicable because its creators have aligned the program content to meet the learning standards and/or curriculum frameworks set by the each state's Department of Education.³¹ Using an interdisciplinary approach, the program lessons are designed to be introduced into various subject areas, such as math, science, language arts, physical education, and social science courses, allowing teachers to integrate and/or substitute their lesson plans for the "Eat Well, Keep Moving" lessons. For example, in math class, the teacher could substitute a lesson about addition, subtraction, multiplication and division with an "Eat Well, Keep Moving" lesson that uses those skills to teach children how to calculate % Daily Value (%DV) for saturated fat (See example in Figure 3).³²

The program has several different components. Parts I and II of the program are each composed of fourteen classroom lessons for each grade—fourth (ages 8-10) and fifth grade (ages

Figure 3: How is %DV calculated?

Teacher Information: How Is % Daily Value Calculated?

Although all food labels provide % DV for nutrients, it is good to know how to calculate these values. The following describes how the % DV for one specific nutrient (saturated fat) is calculated:

To calculate % DV for a particular food, divide the number of grams of saturated fat per serving by 22 and multiply by 100 to get a percentage (22 is used because it is recommended that a person eating a 2,000-calorie daily diet consume no more than 22 grams of saturated fat each day).

For example, a cup of whole milk has 5 grams of saturated fat: $(5 \div 22) \times 100 = 23\%$. While 5 grams may not sound like much, just 1 cup of whole milk contains 23% of the DV for saturated fat for a person who eats 2,000 calories a day.

Source: Eat Well, Keep Moving Manual⁴⁰

9-11). (See lesson all the lesson topics listed in table 2 below). Part III contains six engaging promotions that are supplementary to classroom lessons and provides a way for student to practice the program's ideals both in and out of the classroom. Some of these promotions include "Walking clubs", which are aimed at increasing physical activity and the "Get 3-at School & 5⁺ a Day" campaign, which is a week-long campaign focused on increasing fruits and vegetable intake. Parts IV, V, VI and VII contain physical education activities that include in-class activities and fitness assessments (FitCheck). It also contains a Kid's Plate Healthy Eating Guide that is designed to help children understand what constitutes a balanced diet (See appendix A for details about the program components).

As previously mentioned, the program is also promoted in the cafeteria, at home, among the staff, and in the community. Classroom content is linked to the cafeteria with the use of "Well Cards". These cards are handed out in-class and are used to teach children about the nutritional value of foods that are being prepared or served for lunch by food services staff. At home, parents are involved in helping children complete their take-home assignments and helping them make healthy choices at home. The program also provides take-home newsletters and factsheets for parents to learn from. Staff will learn about nutrition and physical activity as they undergo trainings, prepare for the Eat Well Keep moving lessons, and through the staff wellness workshops and activities throughout the year.^{25,26} (See the list of classroom lesson in Table 2).

Table 2: Section 1: Nutrition and Physical Activity Classroom Lessons	
Part I: Classroom Lesson for 4 th Grade	Part II: Classroom Lesson for 4 th Grade
Lesson 1: Healthy Living	Lesson 15: Healthy Living, Healthy Eating
Lesson 2: Carb Smart	Lesson 16: Keeping the Balance
Lesson 3: Safe Workout: An introduction	Lesson 17: Safe Workout: A Review
Lesson 4: Balancing Act	Lesson 18: Hunting for Healthy Fat
Lesson 5: Fast Food Frenzy	Lesson 19: Beverage Buzz: Sack the Sugar
Lesson 6: Snack Attack	Lesson 20: Go for H2O
Lesson 7: Sugar Water: Think About Your Drink	Lesson 21: Snack and Inactivity
Lesson 8: Water Water Everywhere...And It's the Thing to Drink	Lesson 22: Snacking and Inactivity
Lesson 9: The Safe Workout: Snacking's Just Fine, If you Choose the Right Kind	Lesson 23: Freeze My TV
Lesson 10: Prime-Time Smartness	Lesson 24: Menu Monitoring
Lesson 11: Chain Five	Lesson 25: Veggiemanía
Lesson 12: Alphabet Fruit (and Vegetables)	Lesson 26: Breakfast Bonanza
Lesson 13: Brilliant Breakfast	Lesson 27: Foods From Around the World
Lesson 14: Fitness Walk	Lesson 28: Fitness Walking

Source of Evidence-Base

From 1995 to 1997, a field trial of the “Eat Well, Keep Moving” program was carried out to evaluate its effectiveness at (1) decreasing TV viewing, (2) decreasing fat intake, (3) increasing fruit and vegetable intake, and (4) increasing moderate-to-vigorous physical activity among the fourth and fifth graders at the intervention elementary schools in Baltimore, Maryland.²⁵ Over a two-year period, the program was tested at six elementary schools (eight matched schools were used as control) in a predominantly African-American community in Baltimore.²⁵ Parents were also provided with newsletters, fact sheets and take-home assignments that help with the reinforcement of the program topics at home.

The program was evaluated by using the student self-reported food activity surveys (FAS) and 24-hour recalls to measure dietary intake, physical activity, and TV viewing.²⁵ The analysis of the students' responses showed that the intervention was effective at increasing fruit and vegetable intake, reducing saturated and total fat intake, and reducing television viewing. The results showed a 1.4%(P=0.04) and 0.6% (P=0.05) decrease in total energy from fat and saturated fat compared to control, a 0.36 servings/4184kJ (P=0.01) increase in fruits and vegetables, 8.8mg/4184kJ increase in Vitamin C intake, a 0.7g/4184kJ (P=0.01) increase in fiber consumption and a 0.55hours/day (P=0.06) decrease in television viewing.²⁵ The success of the program inspired its implementation in 50 other schools and has since been implemented in all 50 states and in other countries, thus showing the program's feasibility and flexibility.²⁶ However, the study results had limitations due to the limited exposure to physical education classes in the selected Baltimore elementary schools and response bias in FAS and 24-hour recalls. We will be replicating the original program but we have made several adaptations to make the program contents suitable for the rural population and to reduce bias in data collection.

Adopting the "Eat Well, Keep Moving" program in Fulton County, KY

To ensure that the "Eat Well, Keep Moving" program is implemented to scale and with high fidelity, we will adopt the program as was originally executed in Baltimore, Maryland. It will be implemented in and fourth and fifth grade, using the teachers, staff and the existing elementary school system in Fulton County. Program staff will meet with teachers to brainstorm and decide which lessons are best

integrated with each subject. All lessons will be distributed across the different subjects to reinforce the importance of the program's message. Among fourth graders, one classroom lesson will be implemented bi-weekly per semester, while among fifth graders, all 28 lessons (classroom lessons for both fourth and fifth graders) will be implemented weekly each semester. Classroom promotions like "Walking Clubs" will implement throughout the year, while other classroom promotions will be evenly distributed throughout the year. Extra physical education activities will be implemented bi-weekly each semester along with the regular physical education lessons. (See suggested implementation grid in Appendix B).

Although the program is being implemented in the same manner as the original study, several program adaptations will be necessary. Firstly, the program creators at Harvard's College of Public Health have agreed to align the program curriculum with the current learning standards of the Kentucky Department of Education. (See LOS in Appendix D) Secondly, since Fulton County is a rural community unlike the urban community in Baltimore, the program may need to be adapted to suit the culture and resources in the community. For instance, workout facilities might be farther away from family homes in Fulton when compared to Baltimore. We can make an adaptation by using the school facilities as location for exercise. Thirdly, because the program is heavily focused on nutrition and physical activity, the program creators have to continuously update the nutritional guidelines and daily physical activity requirements to the current USDA standards. Fourthly, Fitbits will be introduced as another means to measure physical activity and to motivate both teachers and students to be physical active. As part of the school

wellness program, open competitions and contests will be set-up among students and teachers with opportunities for the most active people to win prizes. Results will be tracked openly on school boards. Lastly, with the current advancements in technology, it is necessary to consider other sources of getting screen time such as computers, video games, phones and tablets. Therefore, the program manual and newsletters must be changed to account for these various sources of screen time.

In order to improve on the quality of our outcomes we will also make some changes to the program and how it will be implemented, so as to tackle limitations or challenges. Firstly, all the teachers will be made program champions and will receive extra training. We will specifically work with PE teachers to increase the duration of PE classes and the intensity of exercises to moderate-to-high intensity exercises for 40% or more of the class period across the county schools. Secondly, the program assistant along with volunteers will be present at recess to teach children fun, multiplayer games that will get them active. Thirdly, teachers will be provided with ideas of games that can be used during class to get the children moving and increase their energy, such as Up, Down, Stop and Go, and stretches. Fourthly, children will be given wearable activity trackers as a means to track their activity. Lastly, we will work with our teachers and the Western Kentucky University (WKU) Survey Center to modify the FAS to be more easily understood from the third to fifth grade levels of education. Among the modifications to be made will be adding pictures to the surveys to make them more fun and easier to complete. (See sample survey in Appendix B).

Planning process and Community mobilization

The Fulton County school officials and community stakeholders have approved of the implementation of the “Eat Well, Keep Moving” program and provided their Letters of support (see LOS in appendix D), therefore upon receiving funding, in March 2017 a program director and project assistant will be hired to spearhead the initiative. They will both start work on building awareness about the program goals and vision among the principals, teachers, food service staff, parents, and community members. These individuals in the school and community are instrumental to the successful delivery of the program; therefore, it is necessary to build enthusiasm about the program among them and gain buy-in. More importantly, to increase the sustainability of the program, we need to develop community ownership of our mission and vision concerning childhood obesity in Fulton County. To help in establishing buy-in among other things, a Community Advisory Board (CAB) will be formed to help in mobilization the community and program planning activities.

The Community Advisory Board

The CAB will include some key stakeholders and members of the community who are known to be very involved in the community, share in the desire to achieve a healthier community and can offer valuable insight into the program planning process. (See Table 3 for the make-up of the board)

Establishing buy-in

The next important step to implementing the program in the schools will be to

get teachers, parents, principals and other school staff to buy-in to the program. We will do so by (1) creating awareness of the program and building enthusiasm by informing them about the positive benefit of the program and the roles they can play in having an impact on the county for generations, (2) providing training and program materials, (3) providing them with opportunities to gain knowledge and leadership skills, (4) providing incentives. These incentives will include a \$4,000 stipend for each school after every year of participation to be applied towards things that support program goals, developing a staff wellness program that helps the school meet their staff wellness requirements and providing free activity trackers to teachers involved in the program and organizing activity challenges for which a reward will be given.

We will get and maintain the buy-in of parents by providing adequate information about the program and its benefits in increasing the quality of their child's education as healthy nutrition and physical activity increases brain function and presenting parents with information regarding the long term positive effect that the program can have on their children's health.

Table 3: Roles of the Community Advisory Board

CAB Member	Roles
School Superintendent Fulton County schools	Monitor the effectiveness of the program from afar and will serve as a liaison between the Board of Education (BOE) and the CAB. Will be responsible for presenting progress reports on the program to the BOE and will keep the CAB abreast about the policies and suggestions provided by the BOE.
School Principals (2) Fulton County Elementary School and Carr Elementary School	Oversee the work of the school teachers from an educational stand point. He will monitor whether teachers are adequately teaching their core subject material and will help the CAB determine how to help teachers integrate the program materials into their lesson plans without omitting key subject objectives. The can also help to secure buy-in.
Active teacher	Will monitoring the merging of health promotion into the classroom curriculum and use teaching experience to guide the BOE in decision making from the teachers perspective. Help with establishing buy-in among teachers.
Head of Parent- Teacher Association	Has access to all parents and can encourage parents to be proactive in promoting healthy lifestyles at home. Could provide insights into ways to help parents buy-in and participation in take home activities.
Dietician	The dietician will help to ensure that children get what they need nutritionally and physically. She/he will provide new ideas on how to promote the program goals and also improve the staff wellness initiative. Work with food service staff to improve breakfast and lunch menus.
YMCA representative	Provide ideas to encourage community participation. Provision of discounted rates to parents and families.
Cooperative Extension	Will work to establish extracurricular activities that include parental participation.
Partnership for a Fit Kentucky	Can provide resources and ideas on how to approach decreasing obesity through the program. Could also be a future source of funding.
Baptist Memorial Hospital- Union City, TN representative	Will connect us with educational sessions at the hospital and will help with establishing the hospitals buy-in into the program as a source of funding in the future.
PE Teacher	Works with partners and school board to improve PE requirements and establish buy-in in the community. Works with radio and TV stations to spread awareness about the program.

We will use the Strategies Guided by Best Practice for Community Mobilization to guide in the planning and implementation of the program. The CAB, together with the project director will provide **strong leadership** for mobilizing the community. A review of the racial distribution of obesity in Kentucky showed the presence of racial disparities. Therefore, in order to combat these disparities organizations like the Boys and Girls Club of America — which provides mentoring for less fortunate and minority children— will be included in the initiative to decrease obesity. They will encourage healthy eating and physical activities in their after school programs. The YMCA can provide the infrastructure (i.e. work out facility) to help people move towards a healthier lifestyle. Program participants and their families will be referred to the YMCA for programs and work out activities. **A formal structure will be established** with the occurrence of regular meetings of the CAB, teachers and principals as well as the school counselor and all the staff involved in the program implementation. At these meetings, plans will be made and team responsibilities will be discussed. An organizational chart will be created to provide structure and ensure that while implementing the program we are obeying the policies and rules of operations that have been outlined by the Health Department and the Fulton county Board of Education.

We will **engage diverse organizations, community leaders and residents to coordinate with complementary efforts across the community**. This will be done by working with any other wellness programs in the community and encouraging, publicizing and promoting community wellness activities, having some staff or instructors participate in health fairs at the local churches and schools. The

program also requires parental involvement in the program process so that parents can be involved in teaching their children and encouraging them to develop healthy habits. To ensure **authentic participation and shared decision making**, we will assign specific roles and responsibilities to the individuals who are on the implementation and planning teams. Also we will collaborate with people who are passionate and already doing obesity-related work in the community. Group meetings concerning the program would involve participants in the decision making process and will inform the changes made to the intervention.

Before Implementation: 9-month Planning, Piloting and Readiness period

Upon the receipt of the grant, there will be a 9-month long planning, piloting and readiness period. The piloting period is important to determining the feasibility of the program and its materials in a rural area like Fulton County, as the original program was implemented in an urban area. To guide the program planning activities for the intervention, we will use the "Getting to Outcomes" guidelines.³³

In the beginning of March 2017, the PDHD will hire the project director and assistant. Key staff will start to spread awareness about the program in the community, while beginning the search for candidates for our Community Advisory Board. By April 2017, the CAB will be formed. During this planning/piloting phase, key staff will meet with the CAB once a month to plan out the fine details of the program. The CAB will play an essential role in recruiting partners, building buy-in in the community (a continuous process) and help in the molding of the program to suit the communities' cultural norms.

In May 2017, all program staff should be hired and program materials and kits purchased. Focus groups will be held by the program director and assistant among parents and school officials to determine the suitability of the program in this population and the opinions of people about the program. Audio recorders and notes will be used to record the focus groups meeting. The CAB board would meet to discuss the resources in the community that would be beneficial to the program. Based on the results of the focus group, the CAB will make decisions considering how to establish more buy-in, how to adapt the program to suit this population and also discuss ways to address any other issues. By June 2017, an orientation will be held for the program staff where they be given an overview of their roles and responsibilities in ensuring that our intervention is successful. A public health nurse at the Health Department will be responsible for making sure that the exercises in the program are medically accurate and safe. At this time, the Project director, program assistant and the CAB will work on designing pre and post survey that will be distributed before and after the school year.

In July 2017, the program director and assistant will meet with teachers, food service staff and principals twice at both Fulton County Elementary and Carr elementary schools. The first meeting will be a joint orientation for both school, where they will be given a slide show presentation about the program's mission, its components, the role that they can play in this important pursuit of a healthy Fulton County, and the leadership opportunity, benefits and incentives that their participation affords them. The second meeting will be held separately for each school and at this meeting teachers and food service staff will be trained using the

training materials provided by the program creators. Teachers will also be given the opportunity to practice the administration of the “Eat Well, Keep Moving” lessons in front of the program director and assistant. Food service staff will brainstorm on how to make appropriate contributions to the program through the modification of the food menu. At this time, adaptations might be made to the program’s food menu to suit the native foods in Fulton County. This month parental consent forms will be sent home and consent will be gotten for their children’s participation in data collection and program evaluation activities using the opt-out method. They will be asked to only return forms if they desire to opt-out for their children.

In August, Program director and CAB will continue to work on establishing more buy-in in the school and community to convince the unconvinced school staff and parents that the program is important and all children should be given the opportunity to full participate in it. This will be done by creating presentations and opportunities for parents and teachers to learn more about the benefits of the program. About two weeks into classes, pre-surveys will be distributed and completed by students and teachers at both schools. These surveys will measure their knowledge about nutrition and physical activity at both; however, a pilot test of the program will only be implemented at Fulton County Elementary school for the fall term. The names of those who completed the survey will be checked against the class rosters to make sure that no student was absent. If any students were absent, they will be made to complete the survey before gaining exposure to any of the program materials.

The program will be implemented only in Fulton County Elementary School

from August to December 2017. Process evaluations will be conducted at the end every month assess that the program is being implemented properly and if the parties involved like the program. Outcome evaluations will be conducted in October and December to determine if the intervention's short-term goal of increasing knowledge on healthy nutrition and physical activity is being reached. The program director, assistant and the statistician will meet with the CAB to discuss the evaluation results. At this point, suggestions for adaptations and changes to the program delivery might be made and a report be used to disseminate the results to the PDHD and the Board of Education.

In January 2018 the intervention will be fully implemented in both Fulton County and Carr Elementary Schools. From here on out, the CAB will meet quarterly to discuss the progress of the program and any improvements that will need to be made in the implementation process of the program. Hands-on program staff will conduct bi-weekly meetings as a means to monitor staff performance. The results of the process and outcome evaluations will be reviewed by the program director and program assistant, then analyzed by the statistician on a monthly basis. However, a quarterly report of result will be created and made available to the CAB, the PDHD and the BOE. Lastly, the results will be reported to the funders semi-annually (In May and December). In May 2018, both schools will complete a post-test survey. The pre and post surveys will be used to determine if there is an increase in knowledge and desired behaviors among the children and school staff—as a short-term and intermediate goal— thus monitoring the effectiveness of the intervention. In May 2018, the program director and assistant will meet with the CAB to discuss

implementation results and will take decisions on the changes that need to be made to improve the intervention for the next year.

The second year of the program, August 2018-May 2019 will be mainly focused on the full implementation process. The evaluations will be carried out as usual, however, we will start to look for changes in food intake and physical activity. As previously mentioned, the CAB meetings are held quarterly. Meanwhile, the third year, August 2019- May 2020, we will continue implementing the program and begin to work our CAB to seek other funding opportunities and develop plans for sustainability.

Other Trainings

The school already provides teachers and staff trainings on acceptance of diversity and inclusivity of LGBTQ individuals, cultural competency and child development, however, other trainings will be need for the implementation of the “Eat Well, Keep Moving” program. Since the program is being implemented in a school setting where children may have been subject to abuse, violence or have mental health issues and disorders, teachers and staff will be trained on Trauma-informed approach using the Trauma Recovery and Empowerment Model (TREM), in case participating in the program triggers an emotional response. The Program director will partner with the leaders of the Coalition of African-American ministers and Tammy Smith at the Office of Institutional Diversity at the University of Kentucky to review the program and ensure that it is culturally and linguistically appropriate as well as inclusive of all students.

Referrals

Parents will be provided with the contacts of physicians, dieticians and specialists who could help them if they are in need of further assistance in helping their children with the health issues that arise due to unhealthy habits. They will also be connected with the resources at the Baptist Memorial Hospital in Union City, TN.

Fidelity

In order to implement and monitor this program with fidelity, several actions will be taken before, during and after the implementation:

Before Implementation: the program staff will come together to learn about the goals and core components of the “Eat Well, Keep Moving” program and the target population. The curriculum will be looked over and at this time possible adaptations will be planned for. The CAB will review the program handouts and teaching materials alongside with the director, assistant, teachers and staff. The program director will determine what the performance expectations will be for the team and the students. For example, teachers will be expected to teach a lesson bi-weekly and complete a post-lesson survey, which includes lesson objectives checklists that are meant to ensure that all lesson objectives are being met. Teachers, food service staff will be made aware of their responsibilities. At these meetings the training, participant recruitment and staff requirements will also be discussed.

During Implementation: Lessons will be conducted; all changes made during the implementation will be recorded and tracked. At this stage, problems and challenges may arise such as inclement weather delays, illness, and miscommunication between

the school officials and the program staff—which could interrupt the delivery of the program. This may necessitate changes in the preset program delivery schedule; therefore we might need to combine lessons into the space of a week as opposed to the normal bi-weekly schedule. Any changes that are made will be documented. The program director and school principals will provide support and supervision to the teachers and staff involved. Teachers and the program assistant will fill out fidelity monitoring process forms and surveys throughout the implementation process. Teachers will complete forms/surveys at the end of each lesson, while program assistant fill out forms during internal classroom observations.

After Implementation: Fidelity monitoring forms and surveys will be collected. An evaluation team will be responsible for evaluating the implementation of the program as well as the adaptations and their success level. Quality improvement techniques such as the Plan-Do-Study-Act will be used to make improvements to the program.

Table 4: Implementation Plan					
Program implementation indicators	How will site implement program	Lead Staff	Deadline for Completion	Monitoring Tool(s)	Measures of Achievement
1. Form a community advisory board(CA	Brainstorm about diverse stakeholders who can	Project Director	April 2017	Develop a list of CAB members and the	Complete CAB
2. Program staff needed	Evaluator, Data Collector, Statistician, Interviewer, Nutritional	Project Director	May 2017 – June 2017	Develop job descriptions/ interviews	Successful hiring of qualified professionals
3. Strategy for recruiting staff	Make job announcements via mail to trusted professionals, work with	Project Director, CAB	May 2017	Hiring contracts	Orientation to prepare all staff for program implementation
4. Train school teachers and food service staff	Provide 1-day trainings for both teachers and food service staff on how to implement the “Eat Well, Keep Moving” program. Teachers will	Project Director,	July-August 2017	Providing the opportunity for teachers to practice lesson delivery, provide feedback	Increase in knowledge, and understanding of the “Eat Well, Keep Moving” program
5. Staff retention Strategies	Providing certifications upon training completion, providing incentives to	Project Director and CAB members will brainstorm	Upon completion of training and/or at May 2017 end	Regular constructive performance feedback based on surveys and	Staff retention throughout program period

Additional training	2 mini-trainings with external specialists on (1) cultural competence,	Project Director will hire specialists	September 2017	Sign-in sheets at trainings	Attendance of staff at trainings
6. Implement in Fulton county school		Project director and assistant, School staff	August 2017	Post-lesson Surveys	Completed Post- lesson surveys
7. Monitor fidelity	Teachers will practice delivering lessons in front of the program	Program director, external evaluator	Practice will happen in July 2017 while classroom evaluations	Program directors will make notes on each teachers practice	Feedback and suggestions will be recorded
8. Evaluations	Pre and post surveys, attendance logs, post-lesson survey, 24-	program director and assistant	On going. See details in Performance measure	Review evaluation records	Data analysis of results to determine if program is effective
9. Referrals	Making lists of health professionals and other services in the	Project director and assistant, teachers, school	On-going as needed	Self-report and feed-back from parents, regular follow up with	Satisfaction reported by referred parents and children

Sustainability

Our partners, the Fulton County Board of Education have shown a strong interest in sustaining the “Eat Well, Keep Moving” program in the schools. The board has also mentioned their desire to have the program implemented among other grades if found to be successful in improve the health outcomes in the two elementary schools. The program is cheap to implement because it makes use of resources that are already present in the school such as teachers, the gymnasium, and the cafeteria. There is no need to hire staff, which can be very expensive. We are confident that this program will be successful and we plan to help the schools sustain this program by (1) providing them will a \$4000 award to apply towards our mission of increasing nutrition and physical activity in the schools, (2) Helping the schools find other funding opportunities, (3) training an individual in the community to guide the continued implementation process after the grant period.

Potential Challenges and solutions

Some potential challenges might occur. They are as follows: (1) Parents might choose to opt-out of giving consent, which could decrease our number of participants and also complicate the process of collecting performance measure data. (2) During the implementation process, teachers may tire of the new changes to their lesson delivery, which could affect the quality of the integrated lessons. This change could decrease the effectiveness of the intervention. We plan to address these challenges by working with the principals, the heads of the Parent-Teacher Association and

teachers to help in establishing and maintain buy-in among parents that are hesitant about consenting. We will also provide parents with information about the program, what it hopes to achieve and the positive effect it can have on the long-term health quality of life of their children.³⁴ To address the challenge of teachers losing motivation, we will monitor the teachers' performance through post-lesson surveys and classroom observations, provide teachers with incentives to reward their performance, and provide training sessions. To foster a personal investment of teachers in the program, all teachers will be made champions and the teacher with the highest evaluation score and a strong interest in the program, will be hired to lead the team effort towards effectively integrating the program into the school curriculum. If evaluation results show that one or more teacher/s are not meeting the performance goal, the well-trained lead teacher champion will hold one-on-one sessions with the struggling teacher/s to devise a way to help them improve. All teachers will receive extra training that could be counted towards their continuing education training requirements.

Performance Measures & Evaluation

Performance Measures will be derived using teacher post-lesson surveys. These surveys will be used to determine the number of program participants, lessons completed, challenges that occurred during program delivery, and how often the lessons are delivered. The teachers will provide the students' demographical data through class records. In addition process and outcome evaluations will be conducted

Process Evaluation

The performance of the teachers will be evaluated with the use of a self-administered post-lesson surveys and classroom observations. The post-lesson surveys will include (1) a checklist of lesson objectives, (2) questions measuring how teachers and their students like the lessons, the number of lessons and take-home assignments are completed, and it will also provide the opportunity for teachers to discuss the challenges and lessons-learned during administering the program. A compilation of this data will help the program team to assess how well the program is being implemented and identify where changes or adaptations are needed. For example, if school programming interferes with the delivery of one or more lessons, the program director can work with the school to schedule lessons on specific days to avoid conflict.

As a means to monitor the fidelity of the program, random classroom observations and satisfaction surveys will be completed yearly. An internal evaluator will conduct two classroom observations, while an external evaluator will carry out the other two observations. The external evaluator will be an individual who has nothing to do with the project but has been hired via a contract to provide evaluation services. Both evaluators must be experienced in implementing school-based nutrition and physical activity interventions. They will observe the program delivery method in the math, science, language arts, physical education and social science classes and evaluate the performance of the teachers. The results of all evaluations will be entered into an online database such as Cloud SQL that tracks all the program data.

The CAB, teachers, and program staff will use evaluation data results to determine where continuous quality improvements are needed. This process will begin with the use of the Plan-Do-Study-Act (PDSA) cycle by the program director to test for signs of progress and areas that need improvement, then adjustments will be made as needed.³⁵ These evaluations will determine how well the program is being implemented and received by the teachers, students, and their families. It is our goal that by 2018, teachers will have completed at least 80% of their “Eat Well, Keep Moving lessons and at least 80% of take-home assignments will be completed and returned.

Outcome Evaluations

The outcome evaluations will be focused on measuring two main outcomes, and they are: (1) increase in knowledge about good nutrition and physical activities (short-term goal), and (2) an increase in physical activity, and fruit and vegetable intake, as well as a decrease in fatty food intake and TV screen time. The first outcome, changes in knowledge about good nutrition and physical activities, will be measured using a baseline survey which will be collected before the implementation of the program and a post-survey which will be collected after each year of the program’s implementation. Pre and post surveys will be administered by a teacher at the beginning and end of each semester and can be used to establish the effectiveness of the program. Positive results can be used to maintain buy-in to the program and create enthusiasm about the program among parents, teachers and other school staff.

The second outcome will be measured using food and activity survey (FAS)

and 24-hour recalls. As it was done in the original study, the survey will be used to gather socio-demographic and behavioral variables and is composed of a youth food frequency questionnaire (YFFQ), a youth activity questionnaire (YAQ), and other measures and scales that also measured TV viewing. The FAS has been adapted and validated for use among youth in ethnically and socio-demographically diverse population.^{25,36} However, because the FAS method showed low validity among students in the fourth and fifth grade, 24-hour recalls will be used to supplement and enhance the validity of the results. Research shows that 24-hour recalls are reliable and valid means to measure food intake in children as young as 3rd grade and is more effective at accurately measuring dietary intake when used with the FAS.^{25,37,38} Therefore, two 24-hour dietary recall interviews will be conducted at two-week intervals to reduce bias.²⁵

In the original study, fourth and fifth graders had difficulty understanding some parts of the survey; therefore, we will work with the school teachers, the nutrition health coordinator, and the WKU survey center to modify the surveys to make the survey questions easier for the children to understand. Such modifications will include the addition of pictures and making changes to the wording of the surveys to aid in understanding. The food activity pre- and post-surveys will be administered in class at the beginning of the semester and at the end of each semester of implementation by interviewers. The “Eat Well, Keep Moving” interviewers will administer these surveys by reading the questions aloud to students after a 1-hour training session. Additionally, we will create a PowerPoint to help interviewers in properly administer

the survey to this age group.

The two 24-hour recalls of dietary intake and physical activity will be randomly recorded at 2-week intervals each semester/term, thus adding up to four 24-hour recalls per year. An interviewer who has been trained by a nutritionist will administer these 24-hour recalls. All results will be entered into the Food Intake Analysis System database where the nutrition health coordinator can review the interviews and the statistician can analyze the data. The performance measure data and results will be compiled, analyzed and reported to the funder on a semi-annual basis. At the end of the grant period a summative evaluation will show the effectiveness of the program with respect to the short-term goals of increasing knowledge, and outcome goals of decreasing TV viewing and fat intake as well as increasing fruit and vegetable consumption and physical activity. (See outcome goals as outlined below)

1. By 2019, knowledge concerning healthy diets and physical activities will increase by at least 10%,
2. By 2019, there will be 5% decrease in TV screen time,
3. By 2019, there will be a decrease in fatty-food consumption by 5%,
4. By 2019, there will be an increase in fruits and vegetable intake by 5%,
5. By 2019, there will be an increase in physical activity by 5%.

The National Survey for Children's Health is used to assess the health status for elementary school children. However, the survey is not age appropriate and is often completed by parents, therefore, the following questions would be introduced from the CATCH mini-surveys and YRBS to make the questions clear to 4th and 5th graders. These questions can be used as a measure for the afore-mentioned

outcomes:

1. During the past 7 days, how many times a day did you eat fresh fruit and/or drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks).
{Options: 1 time per day, 2 times per day, 3 times per day, 4 or more times per day, none of the above}.
2. During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots). {Options: 1 time per day, 2 times per day, 3 times per day, 4 or more times per day, none}.
3. On an average school day, how many hours do you watch TV? {Options: 0 hours per day, 1 hour per day, 2 hours per day, 3 hours per day, 4 hours per day, 5 or more hours per day}.
4. How many times a week did you eat French fries this week? {Options: 0 times, 1 time, 2 times, 3 times, 4 times, 5 times}.
5. During the past 12 months, on how many sports teams did you play? Examples are: soccer, basketball, baseball, softball, swimming, gymnastics, cheerleading, wrestling, track, football, dance, tennis, and volleyball teams. *Do not include* PE classes {options: 0 team, 1 team, 2 teams, 3 teams, 4 teams}.

The above questions (1-4) were derived from the 2013 YBRS questionnaire³⁹, while question 5 is from CATCH mini-survey.⁴⁰ (see more questions in appendix B)

Before, the intervention begins, it is necessary for us to confirm and receive permission from the stakeholders. The intervention plans have been shared with and approved by the Fulton County school leaders and the health department officials.

They have pledged to be involved in the process (see LOS and MOU'S in Appendix D). We have reviewed and found that there are no applicable laws or policies that limit our ability to collect data from the children except from consent. Therefore, we will need to obtain consent from the parents of the participants, to allow for the collection and reporting of the performance measures and evaluation results. This is where we could meet some obstacles, as some parents might be reluctant to provide consent. We will address this challenge by educating parents prior to the beginning of the intervention about the programs ability to enhance the quality of their child's education and life overall. Parents will be actively included at different stages of the process and will be part of quarterly meetings to keep them aware of the purpose of the program.

Study Design

The design of this intervention is pre-test/post-test, meaning that measurements will be taken before the intervention and more measurements will be taken at the end of each semester after the intervention has begun. The advantage to this method is that baseline data will be available for comparison purposes and it would also help in determining the sustainability of the program. The disadvantages are that it is difficult to determine causality. That is, because there is no control group we would only be able to conduct a within subjects analysis, which makes it difficult to determine if the changes that occur are truly as a result of the program or some external change that might have occurred. To have a more accurate measure of the effects that are caused by our program, we will keep track of changes that occur in the county that might positively and negatively influence the outcome of the program.

Capacity and Experience of the Applicant Organization

The Purchase District Health Department, serves Fulton, Ballard, Carlisle, Hickman and McCracken Counties—a population of over 90,000 people.⁴¹ Our mission is to provide

environmental,

preventative, curative and

health maintenance

services to all our area

citizens including children.

Therefore, We strive to

help individuals adopt

habits and behaviors that

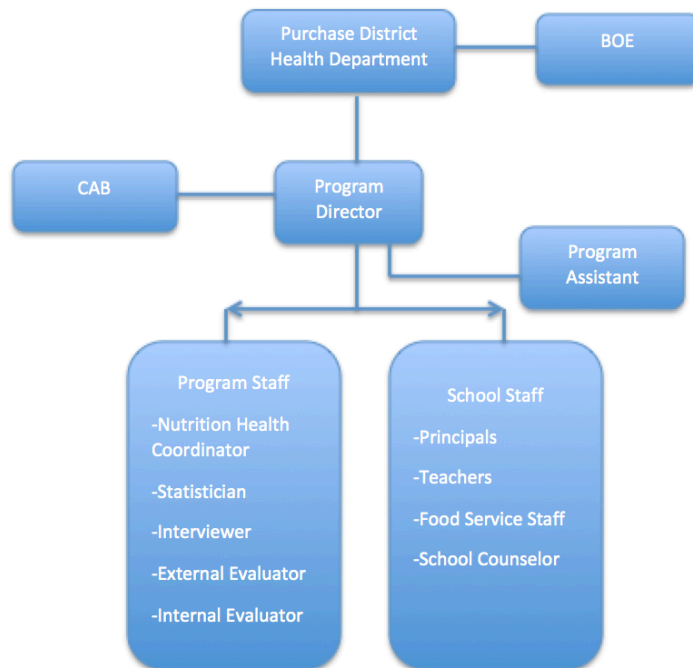
support a long and

productive lifespan.³⁵

The PDHD has years of

experience in effectively implementing large evidence-based programs. One of the largest services offered in the district is the Healthy Access Nurturing Development Services (HANDS) program. In pursuit of achieving our mission, we provide those in our service areas with a variety of services and programs that promote health and well-being. The HANDS program is a home visitation program for pregnant women and new parents that support all areas of the baby's development. In Fulton County alone, the HANDS program currently serves 564 enrolled families. Statistics derived from monitoring the program, show that it has been successful in decreasing the

Figure 4: Organizational Chart



number of premature and low-birth weight babies, as well as the instances of child abuse and neglect.⁴² This demonstrates the PDHD's capacity to implement large-scale services to its community inhabitants.

The PDHD also has experience in providing health educational and school-based nutrition programs in the district. Over the years, we have partnered with the schools in the district to provide health programming to the children. Some examples include, My Pyramid, Eat Smart, the Play Hard Breakfast program, Kidnetics and WeCan! All of which, focus on improving the children's nutrition, however, the We Can program also focuses on increasing physical activity and reducing screen time.⁴³ The WeCan! program has been successfully funded and implemented since 2005. However, we are implementing this program as a complement to the WeCan program because of its more holistic and interdisciplinary approach. We also recently secured a \$160,000 grant one-year grant to fund our public health dental programs. This shows that our health department has the ability to acquire and sustain grant funding, while maintaining our financial resources. We are able to do this by providing trainings, coaching program staff, and closely monitoring and evaluating the implementation of evidence-based programs. Our success is largely attributed to having a well-trained and passionate team that is well connected within the community. We also have a low turnover rates within our health department because our staff are dedicated to improving our community.

Our health department's leadership has a strong commitment to reducing the negative health outcomes in our district. In order to efficiently tackle the health issues, we remain abreast on the needs of the community through the use of health

assessments. Since 1998, we have periodically conducted youth health assessments, overall health assessments and resource assessments to understand the needs of the community and the resources that are available to tackle those needs. The information gathered is then used to create a community health improvement plan. A review of the 2015 needs assessments showed the need to prioritize efforts to decrease adult and youth obesity in the county, therefore, the implementation of the “Eat Well, Keep Moving” program perfectly aligns with our goals.⁴⁴

PDHD makes a concerted effort to keep members of society from different walks of life involved in the decision-making processes concerning health initiatives. Among many other groups, the health department has put together a coalition called Health Choices Caring Coalition (HC3). This group includes Government representatives, Media professionals, local business owners, youth professionals and other members of society. This group discusses policies, community issues, prevention, substance abuse, and other strategies to solve health issues. We also have a youth advisory council that is composed of 20 high school students who support and advise the HC3 group on youth-related health issues. This demonstrates the health department’s ability to convene with diverse stakeholders and decision makers from the community.

All the programs that are being offered by the health department demonstrate a commitment to the goal of reducing negative health outcomes, however, supplementing those programs with a school-based program will be more effective. Implementing the “Eat Well, Keep Moving” program in Fulton County Elementary

schools gives us a higher potential of reaching all the children in the county, resulting in widespread improvement in the health outcomes. Some other on-going efforts being made by the health department to decrease the prevalence of obesity include the “Pedestrian plan”, which is focused on creating bike lanes and more sidewalks to increase physical activity in the community. Another initiative is helping Fulton County schools improve their health policies. We are currently working with Board of Education to (1) increase the time that is dedicated to physical education each week, (2) to increase the physical activity in the classroom, and (3) to increase the rigor of the exercises in PE class to moderate-to-high intensity exercises. For example, trading softball for soccer. We also hope to reduce the amount of time children spend sitting in class by introducing mid-period stretches and exercises.

The PDHD has built strategic relationships with organizations in the community. We work very closely with the Judy Norman at American Cancer Society, Carol Lessner at Big Brother/Big Sister, Judge Executive at the Fiscal Court, Community Health Professionals, the Board of Developmental Disabilities, the Fulton County Sheriff’s Office, Fulton County Family Center, the YMCA and many more. We maintain these partnerships by providing project updates via e-mail, sending Christmas cards, and disseminating results that have occurred as a result of our partnership. The health department provides quality, cost efficient care to all of the clients regardless of their race, color, religion, age, sex, economic status, handicap status, political beliefs, or national origin.

Partnerships & Collaboration

The main partners for this project are Carr Elementary School, Fulton County Elementary School, Fulton County Board of Education, Cooperative Extension, the YMCA and Baptist Memorial Hospital- Union City, TN. At the two elementary schools, the principals, teachers, school counselor and food service staff will be essential and invaluable partners in the implementation of the “Eat Well, Keep Moving” program as it is dependent on their dedication to the incorporation of the programs lessons into the already existing curriculum and framework at the school.

The Fulton County Board of Education is composed of seven district elected officials, including the Superintendent. The board’s responsibilities include but is not limited to evaluating the educational program, adopting the course of study, approving the school budget and providing funds for the proper operation of the school.⁴⁵ The approval of the board is crucial to the implementation of the “Eat Well, Keep Moving” program in the Fulton County Schools. They have given their approval and have also appointed their superintendent to participate in our CAB to help us stay in line with the board policies and to act as a liaison between the board and the CAB (See MOU’S and Letter of support in Appendix D). Their support will help us establish buy-in and encourage the school staff to remain engaged in delivering the program with high quality.

Cooperative Extension is a part of the University of Kentucky and Kentucky State University’s information network. With a mission of helping people improve their quality of life through educational processes that focus on their issues and needs, they work with members of the community across all levels of society to

empower people and foster the use of resources. The extension office will collaborate in our efforts by providing several educational sessions for the children and their parents. For example, an extension agent could provide a cooking class where parents and children can learn about preparing low cost, quick, nutritious meals.

Our partnership with the local YMCA will mostly provides a means to promote the practice of being physically active outside of school. They will provide programming that engages children and their family members in physical activity and healthy living habits, while encouraging them to become members of the organization (See Appendix D for Letter of Support). The YMCA provides such services and other youth and adult health development services to hundreds of people in the community.

We are also partnering with Foundation for a Healthy Kentucky, which is focused on improving access to care, reducing health risks and disparities, and promoting health equity.⁴⁶ They will be very important towards the end of the program, as they offer grants that could help with the sustainability of our program after the funded three years. It is also a mission of theirs to reduce the prevalence of obesity in Kentucky; therefore, we can work on achieving that mission together by starting in Fulton County, KY.

Finally, we will be partnering with Baptist Memorial Hospital-Union City, TN to provide a source for children and their parents who are seeking more health information and nutritional services to get the help needed. Parents will be referred to Baptist Memorial Hospital for their children's nutritional needs. The hospital also provides free educational sessions on health and nutrition, which could be very

resourceful for families in the community. A representative will be invited to speak about nutrition and physical activity at the school fairs. He/she or both will offer quick consults followed by referrals back to the hospital as needed. The aforementioned organizations have procedures that are used to measure and assess their staff and organizational performance in providing their unique services. They also have specific frameworks to guide the process of improving the quality of those services.

Project Management

Due to the heavy focus of the program on nutrition, health and wellness, Lisa Carrington, MPH, RD, a registered dietician with a master's in public health will be hired as the Program Director. She will be in charge of overseeing the program staff in the day-by-day planning, management, monitoring and implementation of the "Eat Well, Keep Moving" program. She will see that the intermediate and long term goal are met by ensuring that work plans are effectively carried out within the allotted deadlines. She will meet quarterly with the program staff to monitor the process of data collection, analysis, and program implementation and will provide program reports to the Purchase District Health Department, the Board of Education and other stakeholders. As problems or the need for change arises, she will meet with CAB and key stakeholders to find a solution. The program director will train staff, teachers and food service workers. She will work with the team in developing questionnaires and determining effective means and frequency to distribute them while maintaining confidentiality of responses by providing each participant with an identifier.

The program Assistant, Stephanie Tiwa, will play a very active role in the

schools. She will act as a liaison between the school staff and the program staff. She will also assist the director in the monitoring and evaluation of the program. She will be active in efforts to establish buy-in among parents and teachers. She will develop and maintain relationships with the program director, school teachers, program staff and food service staff through effective and timely communication. She will make arrangements concerning the location and meals for meetings. She will also monitor teachers and food service staff performance through bi-weekly meetings and random in-class observations. Results of the observations will be reported to the program director and will be used to provide the necessary training to improve the quality of their performance.

Our internal evaluator will conduct two classroom observations while the external evaluator also conducts two classroom observations. The internal evaluator will be responsible for entering data into an online database (Cloud SQL) and making them available to the statistician for analysis. The interviewer will administer all pre and post surveys conduct 24-hour recalls, focus groups at the beginning. The nutrition health coordinator will help with assessing the 24-hour recalls that have been entered by the internal interviewer. She will also have consults with parents about nutrition.

The program staff will be responsible for collecting, entering data into a database, analyzing data and making reports available to the BOE, the health department and other stakeholders. The Principals, will supervise all the school personnel and reporting to the superintendent. They will also work with the program staff to choose the appropriate trainings that will aid the teacher performance. The

principals will also work with the program director to ensure that the program stays within the lines of the school policies. The classroom teachers will be responsible for integrating and disseminating the “Eat Well, Keep Moving” lesson to the students. They will ensure that newsletters and handouts that are provided by the program website are distributed to the parents. The evaluator will help us carry out our program evaluations. Stephanie Tiwa will be responsible for collecting pre and post surveys from teachers and entering the data into the database. She will deal directly with the teachers and school staff, and be a well-known face in the school. She will be responsible for collecting all surveys and evaluation forms from the school staff and supplying the data for the statistician. She will also schedule and book all meeting times and places.

An essential component to the smooth running of the program is managing our relationships with our partners. We will do this by keeping our partners informed about the program’s progress via emails, sending thank you cards, seasonal cards and updates. Keeping them abreast with the ways they can contribute to the program goals and remaining on task about what we can do to help them reach their goals. For instance, the schools will be making a contribution to our goals by providing the people, personnel and infrastructure that is vital to the delivery of our program. Likewise, the health department is helping the schools meet their student and staff wellness requirements through the provision of lessons and fostering the opportunity.

Project Team and Qualification (See all CV's in Appendix B)

Program Staff

Lisa Carrington, MS, RD, Project Director. Lisa is a public health dietitian who received her bachelors in dietetics and master's degree in public health from the University of Louisville. She served as the Director of Health Promotion for at the Louisville Jefferson County Health Department for 15 years where she has had experience implementing several health promotion interventions both in the schools and in the community. She is a longtime advocate for healthy eating and has started community gardens, taught vegetarian cooking classes, spearheaded the local and state 5 A Day Challenge and developed "We Can! KY". Motivated by her passion for her hometown — in Fulton County— she moved to the Purchase District Health Department to be active in improving the state of health in Fulton. She will be responsible for coordinating trainings for the teachers to ensure quality teaching. She will provide performance feedback and oversee the day to day of this project and therefore, dedicate 100% of her time to this project over the two-year period.

Stephanie Tiwa, Program Assistant. She is a recent employee of the Purchase district Health department. She has a bachelor's in education and got her masters of Public Health from the University of Kentucky in 2013. As a graduate student she worked on several data collection projects and completed her practicum under the supervision of Lisa Carrington at the PDHD. Her practicum experience involved working very closely with Lisa and her health promotion staff to implement several health education initiatives such as "Healthy Child, Healthy Adult". She has also received a distinguished award from the governor Bershear for her involvement in

community public health efforts. Being from the community, she has a strong desire to be present and give back to her community through public health. Ms. Tiwa will work very closely with the school and act as a liaison between the schools and the program director. She will dedicate 50% of her time to this project

Jamie Holsinger. PhD, Nutrition Health Coordinator

Jamie is a Registered Dietician with a master's in Nutrition Services. She is currently a professor in the Department of Nutrition at Murray State University and the clinical instructor for the dietetic internship program. She is certified as a school nutrition specialist and a servsafe instructor. She will work with the teachers and WKU Survey Center in modifying the FAS survey to be more 3rd to 5th grader friendly, She will also meet with parents to help them modify their behaviors at home in a way that is beneficial for both the parents and their children. Will work with food service staff to improve food menu options. She will give 30% of her time.

TBD, Internal Evaluator. This individual should have years of experience in data collection will conduct internal observations and enter data into the online database. She will also pay attention to external factors that could influence our results. She will give 30% of her time

Justin Heath, External Evaluator. This individual has years of experience implementing and evaluating. He will assist the program director in conducting evaluations at several stages of the implementation process and monitor the fidelity of the program. He will conduct a formative, process and Impact evaluations. He will conduct 4 assessments each year and be responsible for collating and disseminating the results of the evaluation to the statistician and program staff. The individual will

provide 15% of his time.

Heather Beagly, Statistician. Dr. Beagly is an Associate Professor in the Department of Biostatistics at the University of Kentucky. Prior to her appointment, she worked as a senior statistician for a clinical research organization specializing in Phase IV clinical trials and health registries, where she became interested in methodological issues associated with investigating health outcomes in large, complex databases. She has worked on several statewide projects and carries out most of the analysis at the PDHD. She will work closely with the evaluator and will collect program results data and analyze them. She will provide 20% of her time.

TBA, GRA Interviewer. An interviewer will be contracted in to help with the administration of the 24-hour recalls at random 2-week intervals each term. This individual will also contribute to coordinating fun, physical activities to engage children in during recess. She/he will also administer food and activity surveys in the classroom and receive on the job training. He/she will provide 20% of his/her time

School Staff

Dean Westbrook and Pamela Stein, School Principals. The principal will help to keep teachers motivated and will establish buy-in among parents. They will also hold teacher accountable by making sure that they keep to the Kentucky states learning standards. This is a small addition to his responsibility therefore, for each year of participation; the schools will each be rewarded with a \$4000 gift through the principal each year of participation in the program. This gift must be applied towards

promoting health activities, improving PE facilities and sustaining the Eat Well, Keep Moving program

Teachers. The teachers play a very instrumental role in the “Eat Well, Keep Moving” program. The Math, Science, Language Arts and Social Studies teachers at schools will be responsible for teaching the new curriculum that integrates nutrition and physical activity lessons. They will provide input, feedback and recommendations on the curriculum throughout the implementation process. Teachers will participate in program trainings and staff wellness meetings.

Parents. Some parents will be selected to play an active role in The CAB to help in developing strategies to facilitate student engagement both in school and at home.⁴⁷ All parents be essential to ensuring that the programs initiatives are promoted at home.

Sherry Boston, School Counselor. Obesity is sometimes related to other factors like depression, low self-esteem, and poor body image. She will be an advocate for the children, while providing counseling services that focus on their personal, social and academic development. The counselor will refer parents and students to the specific health professionals and specialist as needed. She will also monitor the children’s receptiveness towards the program in her sessions with them and suggest changes to the program director based on feedback without breaking confidentiality.

Community Members. Some may have a position on the CAB board.

Appendix A: Logic Model and Work Plan

Eat Well, Keep Moving Intervention Logic Model

Situation: Fulton County, Kentucky has a high prevalence of childhood obesity. In effort to reduce the prevalence, this evidence-based program is being implemented.

Inputs	Activities	Output	Short-Term Outcome	Intermediate outcome	Impact
<ul style="list-style-type: none"> • Who • Program staff • Teachers • Principals • PDHD Staff • External and community partners • 4th & 5th graders at Carr Elementary and Fulton County Elementary and Middle School • What • Evidence-Based Eat Well, Keep moving program materials • Computer for data collection • Grant funds • Meeting spaces, equipment and materials • Time 	<ul style="list-style-type: none"> • Program staff meetings and training • Teachers training • Food service staff training • Distribution of program materials • Create awareness for program among students, parents and community members • Program implementation • Meeting with partners • Monitoring and Evaluation 	<ul style="list-style-type: none"> • Well trained staff and teachers • Diverse partners involvement • Proper integration of Eat well, Keep moving curriculum in with schools curriculum • resources mobilized • Impementation in classrooms • Number of participants • Number of people in attendance • Number of lessons completed • Number of completed take home assignments • Evaluation results 	<ul style="list-style-type: none"> • Increase in knowledge about fruits & vegetables • Increase in knowledge about what constitutes healthy foods • Increase in knowledge about healthy fats, bad fats and their effects • Increase in knowledge about the importance of physical activity • Increase in knowledge about the consequences of excessive TVscreen time and sedentary behaviors 	<ul style="list-style-type: none"> • Behavioral changes • increase in fruits and vegetable intake • increase in physical activity • decrease in fatty food and saturated fat consumption • decrease in TV screen time and sedentary behaviors 	<ul style="list-style-type: none"> • Decrease in the Prevalence of childhood obesity by 2020 • Obesity prevention • Improved quality of life • Decreased risk for Diabetes, hypertension, cardiovascular disease...etc • Sustained intergrated curriculum that will create the culture of physical activity and nutritionally healthy lifestyles

Assumptions

The Intervention is accepted and well implemented by program staff and school personnel and decreases the prevalence of childhood obesity. Also, school system will continue to adopt program ideals and sustain the delivery of the program in schools and possibly making the program available to children in other grades

Evaluation

Focus – Teach Materials – Collect data – Analyze and Interpret - Report

Eat Well Keep Moving Work plan
September 1, 2017 – August 31, 2020

Grantee Name Eat Well, Keep Moving

\$Funds Requested \$ \$812,447.50

Goal I: To decrease the prevalence of childhood obesity in Fulton County by May 2020															
Objectives	Activities	Timeline												Measures of Accomplishment	Person Responsible
		S	O	N	D	J	F	M	A	M	J	J	A		
Objective 1: Planning the implementation process of the Eat Well, Keep Moving program	Activity 1: Meeting with program staff.													Meeting Records	Lisa Carrington
	Activity 2: Getting the buy-in and training teachers.	✓	✓	✓	✓					✓	✓			Surveys and focus groups of Teachers	Lisa Carrington, School Principals and Stephanie Tiwa
	Activity 3: creating and meeting with the community advisory board.	✓	✓	✓	✓				✓*	✓	✓	✓	✓	Meeting records	Lisa Carrington and Stephanie Tiwa
	Activity 4: Meet with parents and establishing buy-in to the program	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	Meeting records	Lisa Carrington, Principals and Stephanie Tiwa
	Activity 5: Create opportunity for teachers to practice the dissemination of integrated lessons.											✓		Meeting records	Lisa Carrington and Stephanie Tiwa
	Activity 6: Train food service staff											✓	✓	Meeting records	Lisa Carrington
	Activity 7: Set up incentives for all those involved in the program.									✓				Program plan	Lisa Carrington

	Activity 8: conducting a pilot test of the program	✓	✓	✓	✓								✓	Program records	Lisa Carrington
<p>Objective 2: to properly implement the program</p> <p>Objective Rationale: The evidence-based program has been proven to be effective and sustainable.</p>	Activity 1: Conduct Pre-test on knowledge, physical activity and nutritional behaviors.												✓	High level of interest and effective program delivery.	Lisa Carrington and school principals
	Activity 2: Proper dissemination of integrated lessons in the classroom	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Focus group, survey and evaluation results	Lisa Carrington, school principals and teachers
	Activity 3: Properly integrating classroom lesson into the cafeteria to reinforce knowledge.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Process evaluation results	Lisa Carrington
	Activity 4: Monitoring the implementation of the program by conducting classroom observations	✓		✓			✓		✓					Evaluation results	External Evaluator

Objective 3: Increase knowledge about the importance of proper nutrition and physical activity	Activity 1: Analyze results of total outcome evaluations	✓	✓	✓			✓		✓	✓	✓	✓		Analysis results	Lisa Carrington and Stephanie Tiwa
	Activity 2: Provide reports on performance measures and evaluation data to superintendent, the board of education and funder				✓					✓				Completed report	Statistician, Lisa Carrington
	Activity 3: work with partners to provide alternate ways of presenting information. E.g. invite cooperative extension to provide cooking lessons	✓		✓		✓		✓		✓				Completed sessions with partners	Lisa Carrington and Stephanie Tiwa
	Activity 4: Disseminate information via different means, such as radio stations, newspaper.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Radio air time, written newspaper articles	Lisa Carrington and Stephanie Tiwa

Appendix B: Program Components and Sample Knowledge Questions

Program Components ⁷

TABLE 2.1 Eat Well & Keep Moving Education Components*

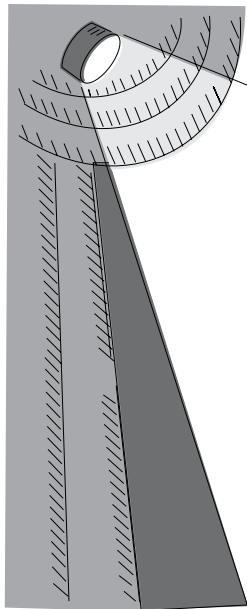
Activity	Quantity	Description
PARTS I AND II—CLASSROOM LESSONS		
Grade 4—Part I	13	Classroom lessons on wellness, the five food groups, sugar-sweetened beverages, whole grains, healthy fat, fruits and vegetables, the Balanced Plate for Health, snacking, limiting television and other screen time, and the safe workout
Grade 5—Part II	13	Classroom lessons on wellness, the five food groups, sugar-sweetened beverages, whole grains, healthy fat, fruits and vegetables, the Balanced Plate for Health, snacking, limiting television and other screen time, and the safe workout
PART III—PROMOTIONS FOR THE CLASSROOM		
Class Walking Clubs (lesson 29)	1	Yearlong class walking clubs
Freeze My TV lesson 27)	1	Weeklong activity focusing on limiting television and other screen time
Get 3 At School and 5+ A Day (lesson 28)	1	Weeklong activity focusing on getting at least 3 servings of fruits and vegetables while at school and 5 or more servings for the entire day
Tour de Health (lesson 30)	1	A question-and-answer game that helps reinforce the <i>Eat Well & Keep Moving</i> Principles of Healthy Living; includes the My Tour de Health booklet, which offers an opportunity for parent involvement
PART IV—PHYSICAL EDUCATION LESSONS		
Grades 4 and 5 lessons	5	Physical education lessons following the safe workout format while also addressing nutrition issues
PART V—FITCHECK GUIDE		
Grades 4 and 5 FitCheck	2	Guides to the FitCheck, a tool for student self-assessment of activity and inactivity: one guide for teachers and one for students
PART VI—FITCHECK PHYSICAL EDUCATION MICROUNITS		
Grades 4 and 5 microunits	4	Brief 5 min. activities developed specifically for the FitCheck
PART VII—ADDITIONAL PHYSICAL EDUCATION MICROUNITS		
Grades 4 and 5 microunits	5	Brief 5 min. activities teaching a variety of nutrition and physical education topics
APPENDIX B—EAT WELL CARDS AND KEEP MOVING CARDS		
Eat Well cards	20	Brief discussions focusing on healthful foods; can be used to highlight cafeteria selections
Keep Moving cards	2	Brief discussion of physical activity topics addressed in the classroom and physical education lessons

*If you are unable to link to the items in this table, go to the Book folder to find the components.

From L.W.Y. Cheung, H. Dart, S. Kalin, and S.L. Gortmaker, 2007, *Eat Well & Keep Moving*, 2nd ed. (Champaign, IL: Human Kinetics).

(continued)

Eat Well & Keep Moving Fridays



This Friday
presenting

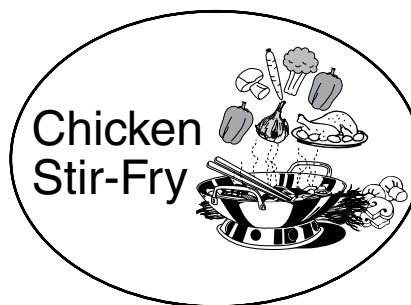
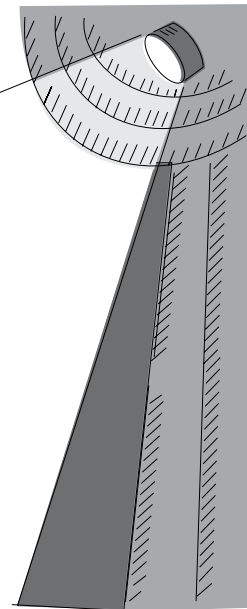


Figure 2.1 Eat Well & Keep Moving menu board.



Stir-Fry With Healthy Fat!

Stir-fry means to cook over high heat while briskly stirring the ingredients so that they cook evenly. Because the vegetables are cut into small pieces, they cook quickly, stay crisp and delicious, and retain most of their nutrients and fresh flavor.

Unlike foods fried in butter, which is high in saturated (unhealthy) fat, stir-fry dishes often have healthy fat, because they are often cooked in vegetable oil and sometimes with another liquids like chicken broth.



Figure 2.2 Eat Well card—Stir-Fry With Healthy Fat!

From L.W.Y. Cheung, H. Dart, S. Kalin, and S.L. Gortmaker, 2007, *Eat Well & Keep Moving*, 2nd ed. (Champaign, IL: Human Kinetics).

(continued)

TABLE 2.2 Eat Well Cards and Keep Moving Cards*

Topic	Title
EAT WELL CARDS	
Chicken stir-fry and vegetables on brown rice	Stir Fry With Healthy Fat!
Chunky vegetable stew	What's the New Food? It's Chunky Vegetable Stew
Fruits and vegetables	To Nourish Your Body as Well as Your Soul . . . At Least 5+ A Day Should Be Your Goal!
Low-fat milk	Calcium Is Right for Pearly Whites!
Oranges	Oranges for Each Day's Journey
Oranges	Punch Out Fruit Punch—Pick Whole Fruit
Oranges	Have You Ever Heard of Pineapple Oranges?
Pizza primavera	Have a Little Slice of Spring
Peaches	What a Treat to Eat a Sweet Peach!
Peppers	Pick Peppers
Steamed broccoli	A Message From Bobby Broccoli
Sweet potatoes and orange juice	What's the New Food? It's Sweet Potatoes and Orange Juice
Sweet potatoes and orange juice	That's One Sweet Potato!
Vegetable chili	Cool Beans
Marinated black bean salad	Great Ways to Eat Beans
Hummus	
Tabbouleh	Bulgur Facts What's the New Food? Tabbouleh
Brown rice pilaf	The Power of Whole Grains
Whole wheat bread	Whole Wheat Bread Versus White Bread
Whole wheat bread	Amber Waves of Grain
KEEP MOVING CARDS	
Being active	A Piece of the Pie?
Warming up	Be Wise . . . Warm Up for 5 Before You Exercise

*Go to the Art folder to find these cards.

an integral part of the Get 3 At School and 5+ A Day activity as well as support *Eat Well & Keep Moving* food service promotions.

On the *Eat Well & Keep Moving* Promotional Days (described previously), a healthful food dish is highlighted in both the cafeteria and the classroom. Throughout the week, the dish is promoted to students in the cafeteria through table tents and posters; on the day the dish is prepared, teachers present the appropriate Eat Well card just before students go to lunch. This dual promotion helps motivate students to try the healthful dish. Here is a sample of *Eat Well & Keep Moving* Promotional Day dishes from Baltimore.

From L.W.Y. Cheung, H. Dart, S. Kalin, and S.L. Gortmaker, 2007, *Eat Well & Keep Moving*, 2nd ed. (Champaign, IL: Human Kinetics).

(continued)

TABLE 2.3 Grade 4 Implementation Grid

Classroom lessons	Promotions	Eat Well cards and Keep Moving cards	Physical education lessons*	Cafeteria activities	Parent involvement
1. Healthy Living	31. Tour de Health		32. Five Foods Countdown		
2. Carb Smart		The Power of Whole Grains	33. Musical Fare	<ul style="list-style-type: none"> • Post Eat Well card 	<ul style="list-style-type: none"> • Reprint Eat Well card in parent newsletter. • Send home Eat More Whole Grains parent fact sheet.**
3. The Safe Workout: An Introduction		Be Wise . . . Warm Up for 5 Before You Exercise		<ul style="list-style-type: none"> • Post Eat Well card 	<ul style="list-style-type: none"> • Reprint Keep Moving card or Keep Moving! article in parent newsletter. • Send home Activate Your Family! parent fact sheet.**
4. Balancing Act					
5. Fast-Food Frenzy					<ul style="list-style-type: none"> • Send home Dietary Fats parent fact sheet.**
6. Snack Attack			34. Bowling for Snacks		<ul style="list-style-type: none"> • Reprint Super Snacks article in parent newsletter.
7. Sugar Water: Think About Your Drink					<ul style="list-style-type: none"> • Reprint Be Sugar Smart article in parent newsletter. • Optional: If lesson taught during warm weather, include Stay Cool article in parent newsletter.
8. The Safe Workout: Snacking's Just Fine, If You Choose the Right Kind			31. Three Kinds of Fitness Fun: Endurance, Strength, and Flexibility	<ul style="list-style-type: none"> • Post Keep Moving card 	<ul style="list-style-type: none"> • Reprint Keep Moving card in parent newsletter.

(continued)

From L.W.Y. Cheung, H. Dart, S. Kalin, and S.L. Gortmaker, 2007, *Eat Well & Keep Moving*, 2nd ed. (Champaign, IL: Human Kinetics).

(continued)

TABLE 2.3 **Grade 4 Implementation Grid** (continued)

9. Prime-Time Smartness	27. Freeze My TV	A Piece of the Pie?		<ul style="list-style-type: none"> • Post Keep Moving card 	<ul style="list-style-type: none"> • Reprint Keep Moving card in parent newsletter. • Reprint Tune Out the TV article in parent newsletter. • Send home Take Control of TV (and other screen time) parent fact sheet.**
10. Chain Five	28. Get 3 At School and 5+ A Day	<ul style="list-style-type: none"> • To Nourish Your Body as Well as Your Soul . . . At Least 5+ A Day Should Be Your Goal! • Punch Out Fruit Punch—Pick Whole Fruit • Have You Ever Heard of Pineapple Oranges? • Oranges for Each Day's Journey 	35. Fruits and Vegetables	<ul style="list-style-type: none"> • Post Eat Well card 	<ul style="list-style-type: none"> • Reprint Eat Well cards in parent newsletter. • Send home Fruits and Vegetables parent fact sheet.**
11. Alphabet Fruit (and Vegetables)					<ul style="list-style-type: none"> • Reprint Fruits and Vegetables article in parent newsletter.
12. Brilliant Breakfast	30. Tour de Health (repeat)				<ul style="list-style-type: none"> • Reprint Whole Grains article in parent newsletter.
13. Fitness Walking	29. Class Walking Clubs				<ul style="list-style-type: none"> • Reprint Keep Moving! article in parent newsletter.

*Teaching the FitCheck, the FitCheck Microunits, and the Additional Physical Education Microunits: Use the FitCheck student self-assessment tool if it matches your students' abilities and fits into your curriculum; if you do decide to use it, we recommend scheduling FitChecks 2 to 3 times during the school year (try to make one time close to the end of the school year). The FitCheck introduction (lesson 37) and the 4 FitCheck Microunits (lessons 38-41) build upon one another and are best taught sequentially as a set. The Additional Physical Education Microunits (lessons 42-26) also are designed to build on one another and are best taught sequentially as a set. However, the microunits can also be used intermittently such as on days when no full-length *Eat Well & Keep Moving* physical education lesson is being taught as long as the units are taught in the correct order.

**Parent fact sheet is also available in Spanish.

From L.W.Y. Cheung, H. Dart, S. Kalin, and S.L. Gortmaker, 2007, *Eat Well & Keep Moving*, 2nd ed. (Champaign, IL: Human Kinetics).

(continued)

TABLE 2.4 Grade 5 Implementation Grid

Classroom lessons	Promotions	Eat Well cards and Keep Moving cards	Physical education lessons*	Cafeteria activities	Parent involvement
14. Healthy Living, Healthy Eating	31. Tour de Health	The Power of Whole Grains	32. Five Foods Countdown	<ul style="list-style-type: none"> • Post Eat Well card 	<ul style="list-style-type: none"> • Reprint Eat Well card in parent newsletter. • Reprint Whole Grains article in parent newsletter.
15. Keeping the Balance					
16. The Safe Workout: A Review		Be Wise . . . Warm Up for 5 Before You Exercise		<ul style="list-style-type: none"> • Post Keep Moving card 	<ul style="list-style-type: none"> • Reprint Keep Moving card or Keep Moving! article in parent newsletter. • Send home Activate Your Family parent fact sheet.**
17. Hunting for Hidden Fat					<ul style="list-style-type: none"> • Send home Dietary Fats parent fact sheet.**
18. Beverage Buzz: Sack the Sugar					<ul style="list-style-type: none"> • Reprint Be Sugar Smart article in parent newsletter. • Optional: If lesson taught during warm weather, include Stay Cool article in parent newsletter.
19. Snack Decisions			33. Musical Fare		<ul style="list-style-type: none"> • Reprint Super Snacks article in parent newsletter.
20. Snacking and Inactivity		A Piece of the Pie?	34. Bowling for Snacks	<ul style="list-style-type: none"> • Post Keep Moving card 	<ul style="list-style-type: none"> • Reprint Keep Moving card in parent newsletter.
21. Freeze My TV	27. Freeze My TV				<ul style="list-style-type: none"> • Reprint excerpt from Freeze My TV Journal in parent newsletter. • Reprint Tune Out the TV article in parent newsletter. • Send home Take Control of TV (and other screen time) parent fact sheet.**

(continued)

From L.W.Y. Cheung, H. Dart, S. Kalin, and S.L. Gortmaker, 2007, *Eat Well & Keep Moving*, 2nd ed. (Champaign, IL: Human Kinetics).

(continued)

TABLE 2.4 **Grade 5 Implementation Grid** (continued)

22. Menu Monitoring					
23. Veggie-mania	28. Get 3 At School and 5+ A Day	<ul style="list-style-type: none"> To Nourish Your Body as Well as Your Soul . . . At Least 5+ A Day Should Be Your Goal! Punch Out Fruit Punch—Pick Whole Fruit Have You Ever Heard of Pineapple Oranges? Oranges for Each Day's Journey 	Fruits and Vegetables	<ul style="list-style-type: none"> Post Eat Well card 	<ul style="list-style-type: none"> Reprint Eat Well card in parent newsletter. Reprint Fruits and Vegetables article in parent newsletter. Send home Fruits and Vegetables parent fact sheet.**
24. Breakfast Bonanza					
25. Foods From Around the World: Italy, China, Mexico, and Ethiopia	31. Tour de Health (repeat)				
26. Fitness Walking	29. Class Walking Clubs		Three Kinds of Fitness Fun: Endurance, Strength, and Flexibility		<ul style="list-style-type: none"> Reprint Keep Moving! article in parent newsletter.

*Teaching the FitCheck, the FitCheck Microunits, and the Additional Physical Education Microunits: Use the FitCheck student self-assessment tool if it matches your students' abilities and fits into your curriculum; if you do decide to use it, we recommend scheduling FitChecks 2 to 3 times during the school year (try to make one time close to the end of the school year). The FitCheck introduction (lesson 37) and the 4 FitCheck Microunits (lessons 38-41) build upon one another and are best taught sequentially as a set. The Additional Physical Education Microunits (lessons 42-26) also are designed to build on one another and are best taught sequentially as a set. However, the microunits can also be used intermittently—such as on days when no full-length *Eat Well & Keep Moving* physical education lesson is being taught—as long as the units are taught in the correct order.

**Parent fact sheet is also available in Spanish.

From L.W.Y. Cheung, H. Dart, S. Kalin, and S.L. Gortmaker, 2007, *Eat Well & Keep Moving*, 2nd ed. (Champaign, IL: Human Kinetics).

(continued)

Sample Knowledge Survey Question⁴⁰

Student Code/Name: _____

Gender: Male / Female

Age: _____ years

3. During the past 12 months, on how many sports teams did you play?

Examples are: soccer, basketball, baseball, softball, swimming, gymnastics, cheerleading, wrestling, track, football, dance, tennis, and volleyball teams.

Do not include PE classes.

☐ 0 teams

☐ 1 team

☐ 2 teams

☐ 3 or more teams

4. Below, check the days last week you went to regular physical education (PE) or gym class?

☐ I didn't go to PE last week

☐ Monday

☐ Tuesday

☐ Wednesday

☐ Thursday

☐ Friday

5. Below, check the days that you took lessons, such as martial arts, dance, gymnastics, or tennis?



☐ I didn't take any lessons in the past seven days

☐ Monday

☐ Tuesday

☐ Wednesday

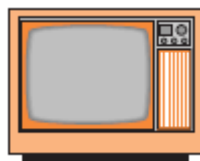
☐ Thursday

☐ Friday

☐ Saturday

☐ Sunday

6. Yesterday, how many hours did you watch TV or video movies when not in school?



☐ I did not watch TV yesterday

☐ Less than 1 hour

☐ 1 hour

☐ 2 hours

☐ 3 hours

☐ 4 hours

☐ 5 hours

☐ 6 hours or more

Student Code/Name: _____

Gender: Male / Female

Age: _____ years

15. Yesterday, did you drink any regular sodas or soft drinks?



- ☐ No, I didn't drink any sodas or soft drinks yesterday.
 - ☐ Yes, I drank sodas or soft drinks **1 time** yesterday.
 - ☐ Yes, I drank sodas or soft drinks **2 times** yesterday.
 - ☐ Yes, I drank sodas or soft drinks **3 or more times** yesterday.
-

16. Yesterday, did you eat a frozen dessert?

A frozen dessert is a cold, sweet food like ice cream, frozen yogurt, an ice cream bar, or a Popsicle.



- | | |
|---|--|
| <input type="checkbox"/> No, I didn't eat any frozen dessert yesterday. | <input type="checkbox"/> Yes, I ate a frozen dessert 2 times yesterday. |
| <input type="checkbox"/> Yes, I ate a frozen dessert 1 time yesterday. | <input type="checkbox"/> Yes, I ate a frozen dessert 3 or more times yesterday. |
-

17. Yesterday, did you eat sweet rolls, doughnuts, cookies, brownies, pies, or cake?



- ☐ No, I didn't eat any of the foods listed above yesterday.
 - ☐ Yes, I ate one of these foods **1 time** yesterday.
 - ☐ Yes, I ate one of these foods **2 times** yesterday.
 - ☐ Yes, I ate one of these foods **3 or more times** yesterday.
-

18. Yesterday, did you eat any chocolate candy?

Do not count brownies or chocolate cookies.



- ☐ No, I didn't eat any chocolate candy yesterday.
 - ☐ Yes, I ate chocolate candy **1 time** yesterday.
 - ☐ Yes, I ate chocolate candy **2 times** yesterday.
 - ☐ Yes, I ate chocolate candy **3 or more times** yesterday.
-

Student Code/Name: _____

Gender: Male / Female

Age: _____ years

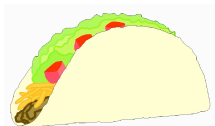
CATCH 'EM 3 - WHICH FOOD IS BETTER FOR YOUR HEALTH?

INSTRUCTIONS: Circle one of the two foods that you think is better for your health.

1.



corn tortilla

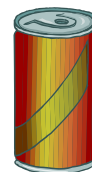


flour tortilla

7.



100% orange juice



orange-flavored drink

2.



doughnut



whole-grain, low sugar
cereal and low-fat milk

8.



veggie pizza



pepperoni pizza

3.



beans



macaroni and cheese

9.



gummy fruit candy

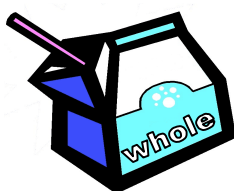


fresh fruit

4.



1% low-fat or skim
(fat-free) milk



whole milk

10.



water



soft drink (soda)

5.



bologna



peanut butter

11.



white bread



whole-grain bread

6.

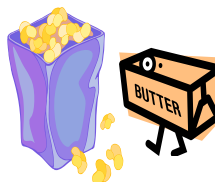


Green salad



French fries

12.



Buttered popcorn



unbuttered popcorn

Appendix C: Budget

Budget

Total Budgeted Costs			
Personnel	\$210,266	\$210,266	\$210,266
Program materials and office supplies	\$29,719.30	\$8,727.50	\$8,727.50
Other supplies	\$8,560.00	\$8,080.00	\$8,560.00
Contracts	\$2,000.00	\$1,500.00	\$1,500.00
Travel	\$8,758.40	\$8,758.40	\$8,758.40
Incentives	<u>\$26,000.00</u>	<u>\$26,000.0</u>	<u>\$26,000.0</u>
Total	\$285,303.70	\$263,331.90	\$263,811.90
			\$812,447.50

Budget Justification

Key Personnel

Lisa Carrington, MS, RD, Project Director. Lisa is a public health specialist and a registered dietician with 10 years of experience the Director of Health Promotion for at the Louisville Jefferson County Health Department for 15 years where she has had experience implementing several health promotion interventions both in the schools and in the community. She will be responsible for coordinating trainings for the teachers to ensure quality teaching. She will provide performance feedback and oversee the day to day of this project and therefore, dedicate 80% of her time to this project over the two-year period.

Stephanie Tiwa, Program Assistant. She is a recent employee of the Purchase district Health department. She has a bachelor's in education and got her masters of Public Health from the University of Kentucky in 2013. As a graduate student she worked on several projects and health promotion projects. She has also received a distinguished award from the governor Bershear for her involvement in community public health efforts. Ms. Tiwa will work very closely with the school and act as a liaison between the schools and the program director. She will assist the director in the development and She will dedicate 100% of her time to this project

Jamie Holsinger. PhD, Nutrition Health Coordinator. Jamie is a Registered Dietician with a master's in Nutrition Services. She is currently a professor in the Department of Nutrition at Murray State University and the clinical instructor for

the dietetic internship program. She is certified as a school nutrition specialist and a servsafe instructor. She has years of experience in implementing nutrition programs across the state of Kentucky. In the past, she has served as a Bid Coordinator for West Kentucky Foodservice Cooperative and a School Foodservice Consultant for the Tennessee Department of Education. She will give 30% of her time.

TBD, Internal Evaluator. This individual should have years off experience in data collection will conduct internal observations and enter data into the online database. She will also par attention to external factors that could influence our results. She will give 30% of her time.

Justin Heath, External Evaluator. This individual has years of experience implementing and evaluating. He will assist the program director in conducting evaluations at several stages of the implementation process and monitor the fidelity of the program. He will conduct a formative, process and Impact evaluations. He will conduct 2 observational evaluations each year and be responsible for collating and disseminating the results of the evaluation to the statistician and program staff. The individual will provide 15% of his time.

Heather Beagly, Statistician. Dr. Beagly is an Associate Professor in the Department of Biostatistics at the University of Kentucky. She has worked on several statewide projects and carries out most of the analysis at the PDHD. She will work closely with the evaluator and will collect program results data and analyze them. The will provide 20% of her time.

TBA, GRA Interviewer. An interviewer will be contracted in to help with the administration of the 24-hour recalls at random 2-week intervals each term. This individual will also contribute to coordinating fun, physical activities to engage children in during recess. He/she has experience in data collection. She would also be trained on the job to administer food and activity surveys He or she will provide 20% of the time

Table 5: Employee Salary + Fringe Benefits						
Position	Base Salary	% Effort	Project Salary	Fringe %	Fringe Amount	Total pay
Project Director	\$62,788	80%	\$50,230	40%	\$25,115	\$75,345
Program Assistant	\$45,000	100%	\$45,000	40%	\$18,000	\$63,000
Nutrition Health Coordinator	\$57,302	30%	\$17,191	30%	\$5,157	\$22,348
Internal Evaluator	\$55,000	30%	\$16,500	20%	\$3,300	\$19,800
External Evaluator	\$55,000	15%	\$8,250	20%	\$1,650	\$9,900
Interviewer	\$32,000	20%	\$6,400	20%	\$1,920	\$11,520
Statistician	\$69,615	20%	\$13,923	25%	\$1,392	\$8,353
Total						\$210,266

Program materials and office supplies:

Program material kits (20) will be ordered to aid the training of teachers and to guide the direction of the program. This will amount to a total cost of $\$69 \times 20 = 1380$. Other supplies include, printing paper and ink, writing materials, training materials and parental advice and resource guides, which will be used to guide parents on how to keep their children engaged at home. These supplies are budgeted to cost \$1,150. 200 Fitbits will be purchased to track the activity of the children, however, in year 2 of the program 60 more Fitbits will be ordered for the incoming fourth graders. We will also order Fitbits for five teachers at each school and two food service staff. Four audio recorders at \$75 will be purchased for use during focus groups and interviews. The project director will be supplied with a computer priced at \$2000, a telephone priced at \$1200. Also, office furniture and a printer will be purchased at \$1500 and \$800 respectively.

Table 6: Program materials and office supplies					
Supplies	Unit(s)	Cost per unit	Year 1	Year 2	Year 3
Program material	20	\$69.00	\$1,380.00	\$1,380.00	\$1,380.00
Fitbit Flex wrist	214	\$99.95	\$21,389.30	\$4,997.50	\$4,997.50
Audio Recorder for focus	4	\$75.00	\$300.00	\$0.00	\$0.00
Printer:	1	\$1,500.00	\$1,500.00	\$0.00	\$0.00
Printer ink and paper		\$1,150.00	\$1,150.00	\$1,150.00	\$1,150.00
Furniture:	1	\$800.00	\$800.00	\$0.00	\$0.00
Telephone:	1	\$1200.00	\$1200.00	\$1200.00	\$1200.00
Computer:	1	\$2,000.00	\$2,000.00	\$0.00	\$0.00
Total			\$29,719.30	\$8,527.50	\$8,527.50
Sum Total					\$812,447.50

Other Supplies

Food will be provided for meetings with teachers and food service staff, Meetings with parents and the Community Advisory Board.

- Teachers (10) and food service staff (4): There will be one Training meeting and four catered quarterly meetings each year for both schools that will be attended by the program director and assistant. \$200 will be allocated for each of these meetings
- Parents: There will be two meetings yearly. We will expect at least one of the parent of our 193 children to be present. Therefore we will plan for 220 parents to be in attendance assuming that both parents of some children will attend
- Community Members/ Community Advisory board meetings: once a month for 8-months planning period then four meetings yearly. We will shift the meeting schedule back to once a month in year 3.

Table 7: Other supplies							
Meetings	# of attendees	Cost per attendee	Cost per meeting	Number of meetings	Total year 1 cost	Total year 2 cost	Total year 3
Teachers	16.00	\$12.50	\$200.00	5.00	\$1,000.00	\$1,000.00	\$1,000.0
Parents	220.00	\$15.00	\$3,300.00	2.00	\$6,600.00	\$6,600.00	\$6,600.0
CAB	8.00	\$15.00	\$120.00	8.00	\$960.00	\$480.00	\$960.0
Total					\$8,560.00	\$8,080.00	\$8,560.0

Contracts

A teacher champion will be hired at both schools to help teachers properly integrate the program into the classrooms and to help teachers who may be struggling. This will cost \$1500 yearly. Tammy Smith, Office of Institutional Diversity will also work with us on the project. It will cost \$500 once

Travel

Project Director

- Transportation between the two schools, twice a week: \$10. This will cost a total of \$360 for weeks of school.

Statistician:

- Transportation twice a year to and from the University of Kentucky to attend program staff meeting: \$206.4.
- Lodging for 2 nights, four times a year: \$69 per night= \$552.

Conferences

- Attendance fees, Hotels, meals and transportation for 5 teachers from

each school to attend a conference

\$6500

- Teacher champions at both schools will attend the annual Regional Training in years 2 and 3.

Incentives

Each school will be awarded \$20,000 for each year of participation to apply towards improving nutrition and physical activity in the school. This could be achieved by improving school infrastructure, installing new PE equipment...etc. Also, the parents of each cohort will be given \$20 farmers market gift cards to spend on fruits and vegetables to jumpstart the effort to increase fruits and vegetable intake. 200 \$20 gift cards will be distributed to the parents of the fourth and fifth graders at the beginning of the year.

Appendix D:

LOS & MOU'S

References

1. Ling J, King K, Speck B, Kim S, Wu D. Preliminary Assessment of a School-Based Healthy Lifestyle Intervention Among Rural Elementary School Children. *J School Health*. 2014;84(4):247-255.
doi:10.1111/josh.12143.
2. Melnyk B, Jacobson D, Kelly S et al. Twelve-Month Effects of the COPE Healthy Lifestyles TEEN Program on Overweight and Depressive Symptoms in High School Adolescents. *J School Health*. 2015;85(12):861- 870.
doi:10.1111/josh.12342.
3. Vital Signs: Obesity Among Low-Income, Preschool-Aged Children — United States, 2008–2011. Center for Disease Control. 2016. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6231a4.htm?s_cid=mm6231a4_w. Accessed April 6, 2016.
4. FastStats. Center for Disease Control. 2016. Available at: <http://www.cdc.gov/nchs/fastats/child-health.htm>. Accessed September 30, 2015.
5. Childhood Overweight and obesity trends. National Conference of State Legislatures. Retrieved from <http://www.ncsl.org/research/health/childhood-obesity-trends-state-rates.aspx> . Accessed on November 12, 2015. Web
6. Commonwealth of Kentucky. Fulton County. Retrieved from <http://www.fultoncounty.ky.gov/about.htm> on September 30, 2015. web
7. 2014 Kentucky Kids Count County Data Book Kentucky Youth Advocates, Jeffersontown, KY. Retrieved from

<http://datacenter.kidscount.org/data/tables/6684-early-childhood-obesity?loc=19&loct=5#detailed/5/2961/true/133,38,35,18,17/any/13739,1> 3740.

Accessed November 23, 2015.

8. Health Data. Fulton county report. Retrieved from https://www.healthdata.org/sites/default/files/files/county_profiles/US/County_Report_Fulton_County_Kentucky.pdf. Accessed on october 2, 2015. Web
9. Kral, T. V.,Faith, M. S. Influences on child eating and weight development from a behavioral genetics perspective. J Pediatr Psychol. 2009; 34(6): 596-605. Accessed on April 2, 2016. Web
10. Epstein LH, Wing RR, Valoski A. Childhood obesity. Pediatric clinics of North America. 1985 Apr;32(2):363-79. Accessed on March 25, 2016. Print
11. 2014 Kentucky KIDS COUNT County Data Book Kentucky Youth Advocates, Jeffersontown, KY. Retrieved from <http://datacenter.kidscount.org/data/tables/6684-early-childhood-obesity?loc=19&loct=5#detailed/5/2961/true/133,38,35,18,17/any/13739,1> 3740. Accessed April 6, 2016
12. Overweight and Obesity. Center for Disease Control.<http://www.cdc.gov/obesity/stateprograms/fundedstates/pdf/Kentucky-State-Profile.pdf>. Web. Accessed November 1, 2015.
13. Obesity in Children and Teens. American Academy of Child and Adolescent Psychiatry. http://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Obesity-In-Children-And-Teens-079.aspx retrieved. November 13, 2015.

14. Ogden CL, Lamb MM, Carroll MD, Flegal KM. Obesity and socioeconomic status in adults: United States 1988–1994 and 2005–2008. NCHS data brief no 50. Hyattsville, MD: National Center for Health Statistics. 2010.
15. Adler N, Newman.K. Socioeconomic Disparities In Health: Pathways And Policies. Health Aff. March 2002 vol. 21 no. 260-76. Accessed November 12, 2015
16. Kentucky Cabinet for Health and Family services. <http://chfs.ky.gov>. Web. Assessed on December 1, 2015
17. Obesity Prevention in Black Communities. State of Obesity. <http://stateofobesity.org/disparities/blacks/>. Retrieved December 2, 2015
18. Qualifying Data SY 14-15. Kentucky Department of Education. [http://education.ky.gov/federal/SCN/Documents/Qualifying Data SY 14-15_20150312.xlsx](http://education.ky.gov/federal/SCN/Documents/Qualifying%20Data%20SY%2014-15_20150312.xlsx). Accessed on November, 2015
19. Eligibility Manual for School Meals. United States Department of Agriculture. http://www.fns.usda.gov/sites/default/files/cn/SP40_CACFP18_SFSP20-2015a.pdf. Accessed on April 20, 2016
20. Dixon, Brittany, Michelle-Marie Peña, and Elsie M Taveras. "Lifecourse Approach to Racial/ethnic Disparities in Childhood Obesity." *Advances in Nutrition (Bethesda, Md.)*3.1 (2012): 73-82. Web. Accessed March, 2016
21. Quick Facts: Fulton County, Kentucky. US census. <http://quickfacts.census.gov/qfd/states/21/21075.html>. Accessed on December 7, 2015.
22. Comparative Study of the Status of Minority Populations in America's Poorest Counties: A Pilot Project. National Rural Health Association.

September 10, 2008. Retrieved from

[http://www.ruralhealthweb.org/download.cfm?downloadfile=62210D55-](http://www.ruralhealthweb.org/download.cfm?downloadfile=62210D55-3048-651A-FED9A1FF463AA546&typename=dmFile&fieldname=filename)

[3048-651A-](http://www.ruralhealthweb.org/download.cfm?downloadfile=62210D55-3048-651A-FED9A1FF463AA546&typename=dmFile&fieldname=filename)

[FED9A1FF463AA546&typename=dmFile&fieldname=filename](http://www.ruralhealthweb.org/download.cfm?downloadfile=62210D55-3048-651A-FED9A1FF463AA546&typename=dmFile&fieldname=filename). Accessed

on April 10, 2016.

23. The Health of Kentucky: A County Assessment. Lexington, KY, 2007.

Kentucky Institute of Medicine. Retrieved from

<http://www.kyiom.org/healthky2007a.pdf> . Accessed on November 11,

2015

24. 2013 Kentucky minority health status report. Kentucky Cabinet for Health

Services. [http://chfs.ky.gov/nr/rdonlyres/0ca127c5-6b9e-4895-92b3-](http://chfs.ky.gov/nr/rdonlyres/0ca127c5-6b9e-4895-92b3-799a24295473/0/ky2013minorityhealthstatusreportdraftfinal edits11202013.pdf)

[799a24295473/0/ky2013minorityhealthstatusreportdraftfinal edits11202013.pdf](http://chfs.ky.gov/nr/rdonlyres/0ca127c5-6b9e-4895-92b3-799a24295473/0/ky2013minorityhealthstatusreportdraftfinal edits11202013.pdf).

[Accessed on November 15 2015](http://chfs.ky.gov/nr/rdonlyres/0ca127c5-6b9e-4895-92b3-799a24295473/0/ky2013minorityhealthstatusreportdraftfinal edits11202013.pdf)

25. Gortmaker et al. Impact of School-Based Interdisciplinary Intervention on Diet

and Physical Activity among Urban Primary School Children. Arch Pediatr

Adolesc Med. 1999; 153:975-983. Accessed on October 24, 2015

26. Eat Well and Keep Moving: An Interdisciplinary Elementary Curriculum for

Nutrition and Physical Activity. Retrieved from_

<http://www.eatwellandkeepmoving.org>. Accessed November 10, 2015.

27. Fulton County Elementary/Middle School in Hickman, KY. Retrieved from

[http://elementaryschools.org/directory/ky/cities/hickman/fulton-county-](http://elementaryschools.org/directory/ky/cities/hickman/fulton-county-elementary-middle-school/210210002113/)

[elementary-middle-school/210210002113/](http://elementaryschools.org/directory/ky/cities/hickman/fulton-county-elementary-middle-school/210210002113/). Web. Accessed April 11, 2016.

28. Carr Elementary School. Public School Review.

<http://www.publicschoolreview.com/carr-elementary-school-profile>. Accessed December 2, 2015

29. Courtney, N. A. Shaping Kentucky's Future: A Community Guide to Reducing Obesity <http://fitky.wordpress.cdpehs.com/wp-content/uploads/sites/2/2014/09/Shaping-Ky-Future-Success-Stories.pdf>. March 13, 2016.
30. The Social Cognitive Theory. Boston University School of Public Health. Retrieved from <http://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/SB721-Models/SB721-Models5.html>. Accessed February 6, 2016.
31. Gortmaker SL, Peterson K, Wiecha J, et al. Reducing Obesity via a School-Based Interdisciplinary Intervention Among Youth: Planet Health. *Arch Pediatr Adolesc Med*. 1999;153 (4):409-418.
32. Lilian W.Y. Cheung, Hank Dart, Sari Kalin, Brett Otis, Steven Gortmaker. Eat Well and Keep Moving. Human Kinetics. Second edition. 2007. print
33. Getting To Outcomes Improving Community –Based Prevention. RAND Corporation. <http://www.rand.org/health/projects/getting-to-outcomes.html> Retrieved January 21, 2016
34. CATCH Kids Club Implementation: Making the Healthy Choice the Easy Choice. CATCH. <http://catchinfo.org/wp-content/uploads/2016/02/CKC-Best-Practices-Guide.pdf>. Retrieved March 23, 2016

35. The W. Edwards Deming Institute. The Plan-Act-Do Cycle. Retrieved from <https://www.deming.org/theman/theories/pdsacycle> on December 10, 2015
36. Field AE, Peterson KE, Gortmaker SL, Cheung LW, Rockett H, Fox MK, Colditz GA. Reproducibility and validity of a food frequency questionnaire among fourth to seventh grade inner-city school children: implications of age and day-to-day variation in dietary intake. *Public Health Nutr.* 1999 Sep; 2(3): 293-300.
37. Watson. F, Collins. C, Sibbritt. D, Dibley. M, and Garg. M. Reproducibility and comparative validity of a food frequency questionnaire for Australian children and adolescents. *Public Health Nutr.* 1999 Sep;2(3):293-300. Accessed April 29, 2016
38. Lytle LA, Nichaman M.Z, Obarzanek E, et al, for the CATCH Collaborative Group Validation of 24-Hour recalls assisted by food records in third grade children. *J AM Diet Assoc.* 1993;93:1431-1436
39. 2013 YRBS Questionnaire. Center for Disease control.. Retrieved from ftp://ftp.cdc.gov/pub/data/yrbs/2013/2013_xxh_questionnaire.pdf on December 10, 2015
40. "CATCH' em" Mini-Surveys for Classrooms. CATCH. Retrieved from http://catchinfo.org/wp-content/uploads/2014/11/CATCH-EM-Mini-Surveys_07-28-09.pdf on March 18, 2016
41. Purchase District Health Department. <http://www.purchasehealth.org>. Retrieved on November 30 2015.

42. 2014 – 2015 Annual Report. Lake Cumberland District Health department.

http://www.lcdhd.org/images/uploads/LCDHD_Annual_Report_2015.pdf

Retrieved on January 15 2016

43. Health Education. Purchase District Health Department.

<http://www.purchasehealth.org/health-education.html>. Retrieved on

[January 21, 2016](#)

44. Fulton County Resource Guide. Fulton County (Ohio) Health Department.

<http://www.fultoncountyhealthdept.com/#/resources/resource-guide>. Retrieved

[on February 6, 2016](#)

45. Fulton County Board of Education. Fulton County Schools.

<http://www.fultonschools.org/en/divisions/board>. Retrieved January 26, 2016

46. Walsh SE, Christian WJ, Hopenhayn C. Place Matters: Health Disparities in the Commonwealth, A Report on the Delta and Appalachian Regions of Kentucky.

Louisville, KY: Foundation for a Healthy Kentucky, 2012. Retrieved from

http://www.healthy-ky.org/sites/default/files/BRFSS_Report_6.pdf on Dec 16,

2015

47. A guide for Implementing Personalized Learning Plan (PSLP) Programs. New Jersey Department of Education. Retrieved from

<http://www.state.nj.us/education/cte/pslp/PSLPGuide.pdf> on February 2,

2016.